

DNFSB Recommendation 94-1 Hanford Site Integrated Stabilization Management Plan

Date Published
August 1995

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Prepared for the U.S. Department of Energy
Office of Environmental Restoration and
Waste Management



**Westinghouse
Hanford Company**

P.O. Box 1970
Richland, Washington

Management and Operations Contractor for the
U.S. Department of Energy under Contract DE-AC06-87RL10930

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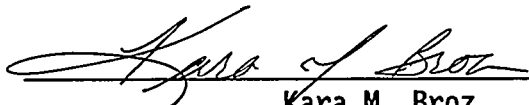
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Kara M. Broz

August 15, 1995

**DNFSB RECOMMENDATION 94-1
HANFORD SITE INTEGRATED STABILIZATION
MANAGEMENT PLAN
VOLUME 2: SCHEDULES**

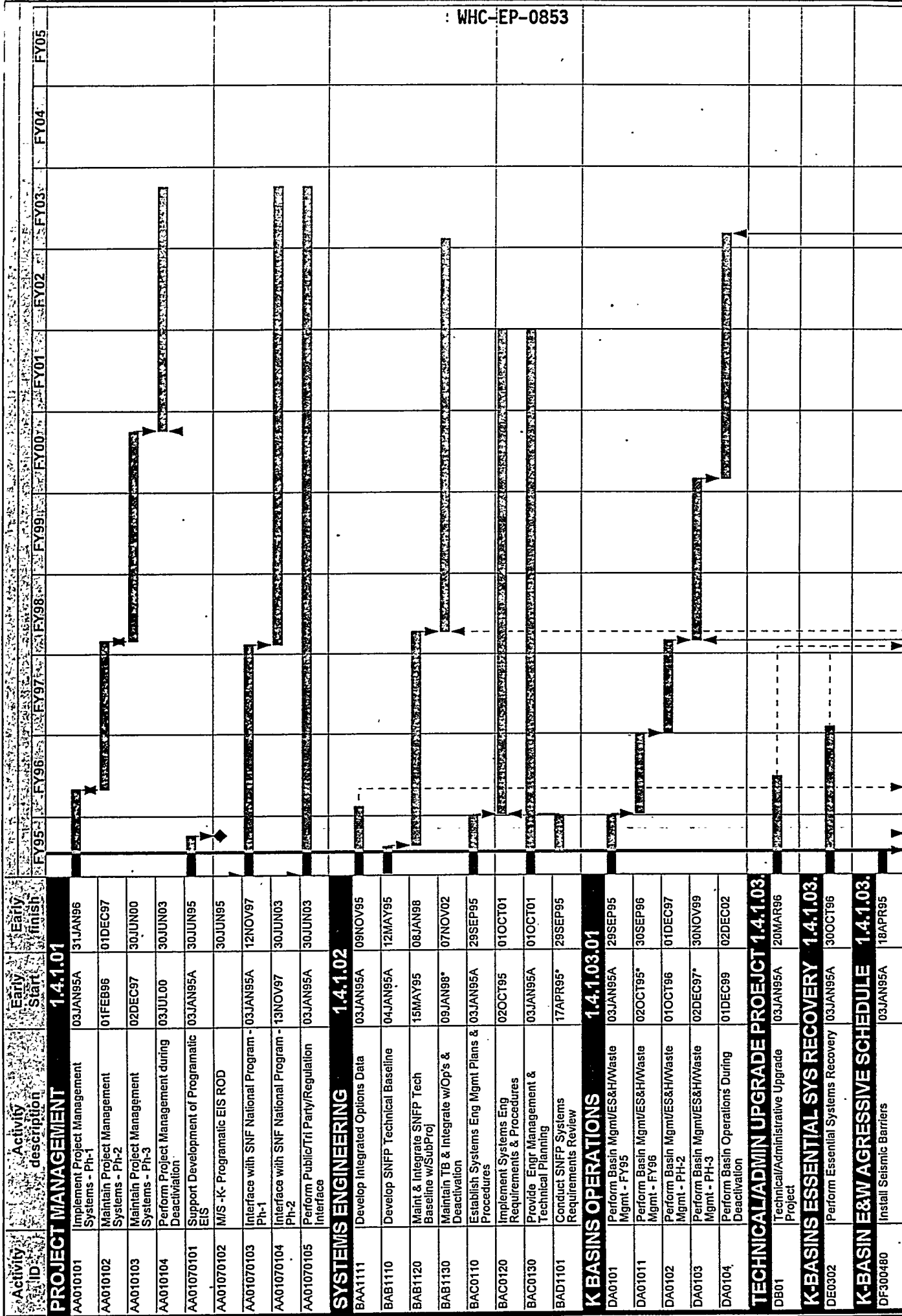
EXECUTIVE SUMMARY

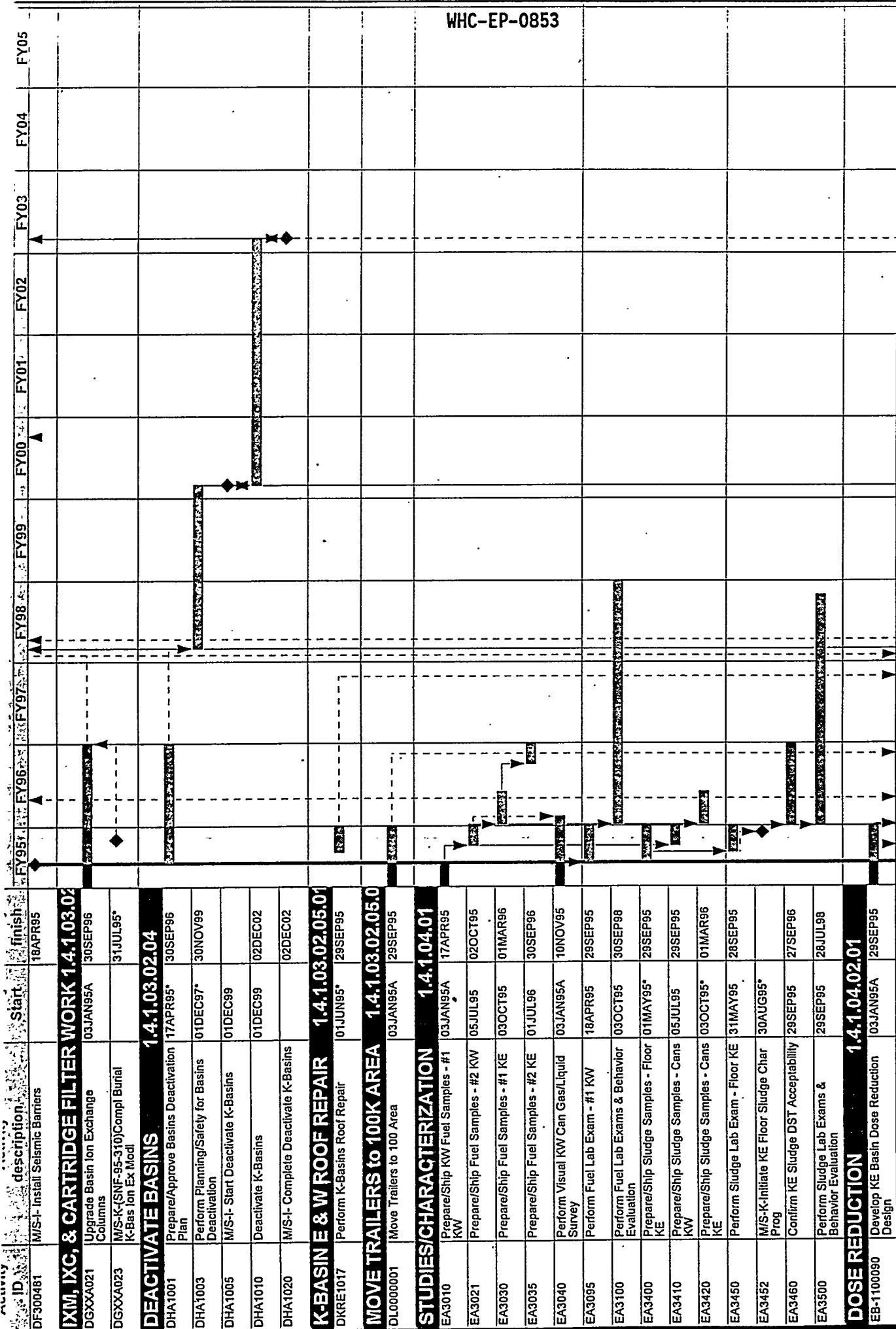
The Hanford Site Integrated Stabilization Management Plan (SISMP) is being developed in support of the U.S. Department of Energy's (DOE) Defense Nuclear Facilities Safety Board (DNFSB) Recommendation 94-1 Integrated Program Plan (IPP). Volume 1 of the SISMP identifies the technical scope and costs associated with Hanford Site plans to resolve concerns identified in DNFSB Recommendation 94-1. Volume 2 of the SISMP provides the Resource Loaded Integrated Schedules for Spent Nuclear Fuel Project and Plutonium Finishing Plant activities identified in Volume 1 of the SISMP.

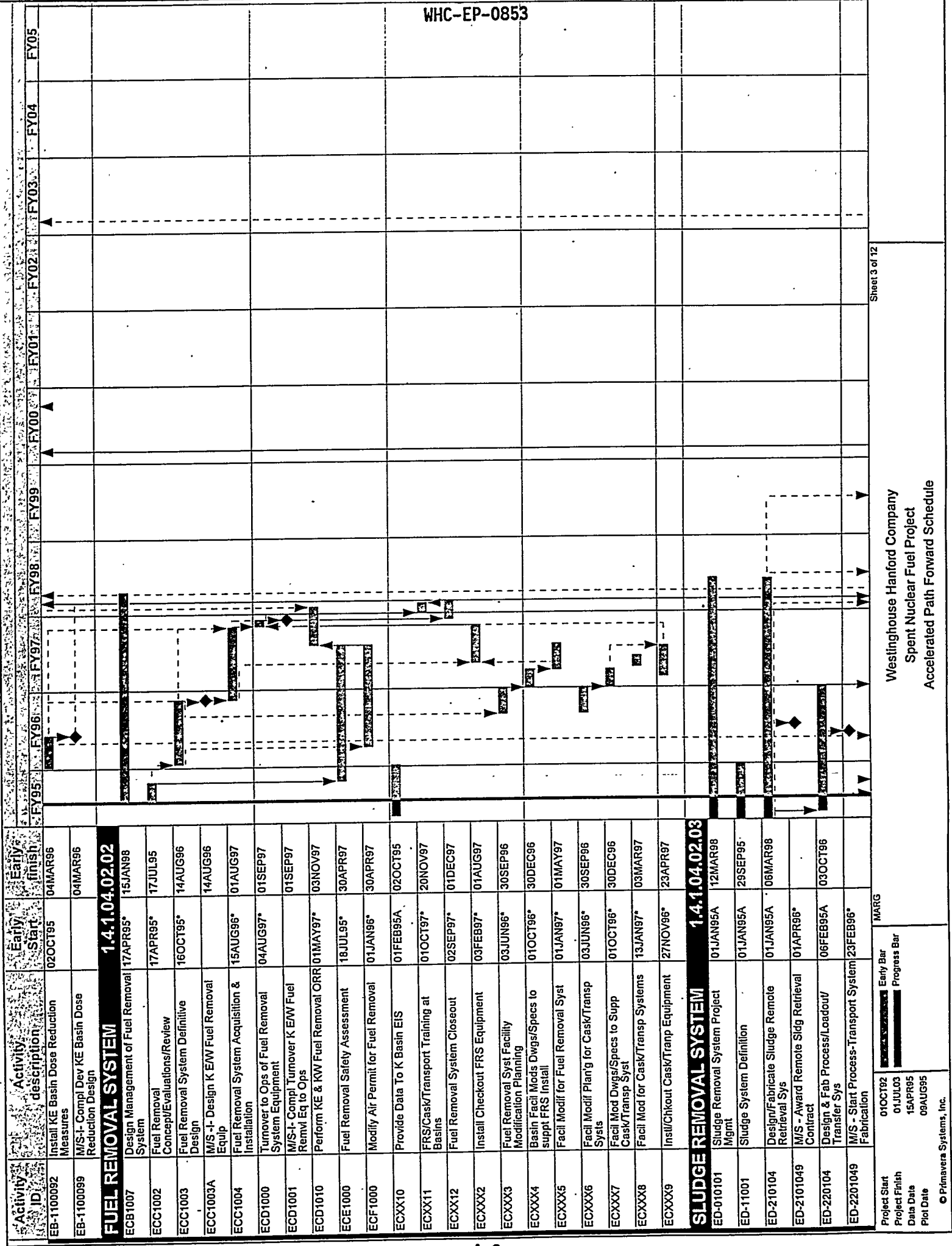
Appendix A provides the schedules and progress curves related to spent nuclear fuel management. Appendix B provides the schedules and progress curves related to plutonium-bearing material management. Appendix C provides programmatic logic diagrams that were referenced in Volume 1 of the SISMP.

APPENDIX A

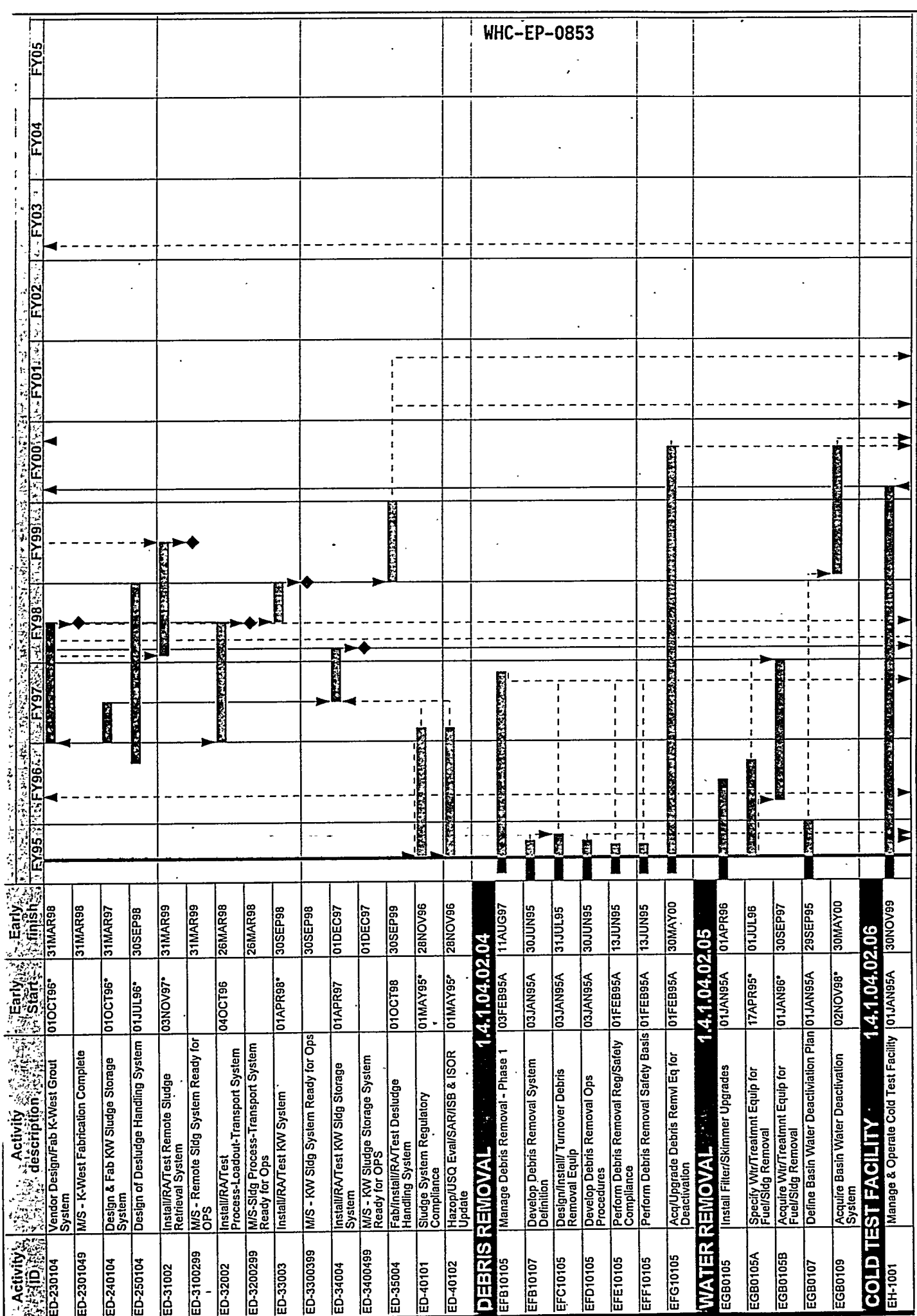
HANFORD SITE SPENT NUCLEAR FUEL SCHEDULES







Westinghouse Hanford Company
Spent Nuclear Fuel Project
Accelerated Path Forward Schedule

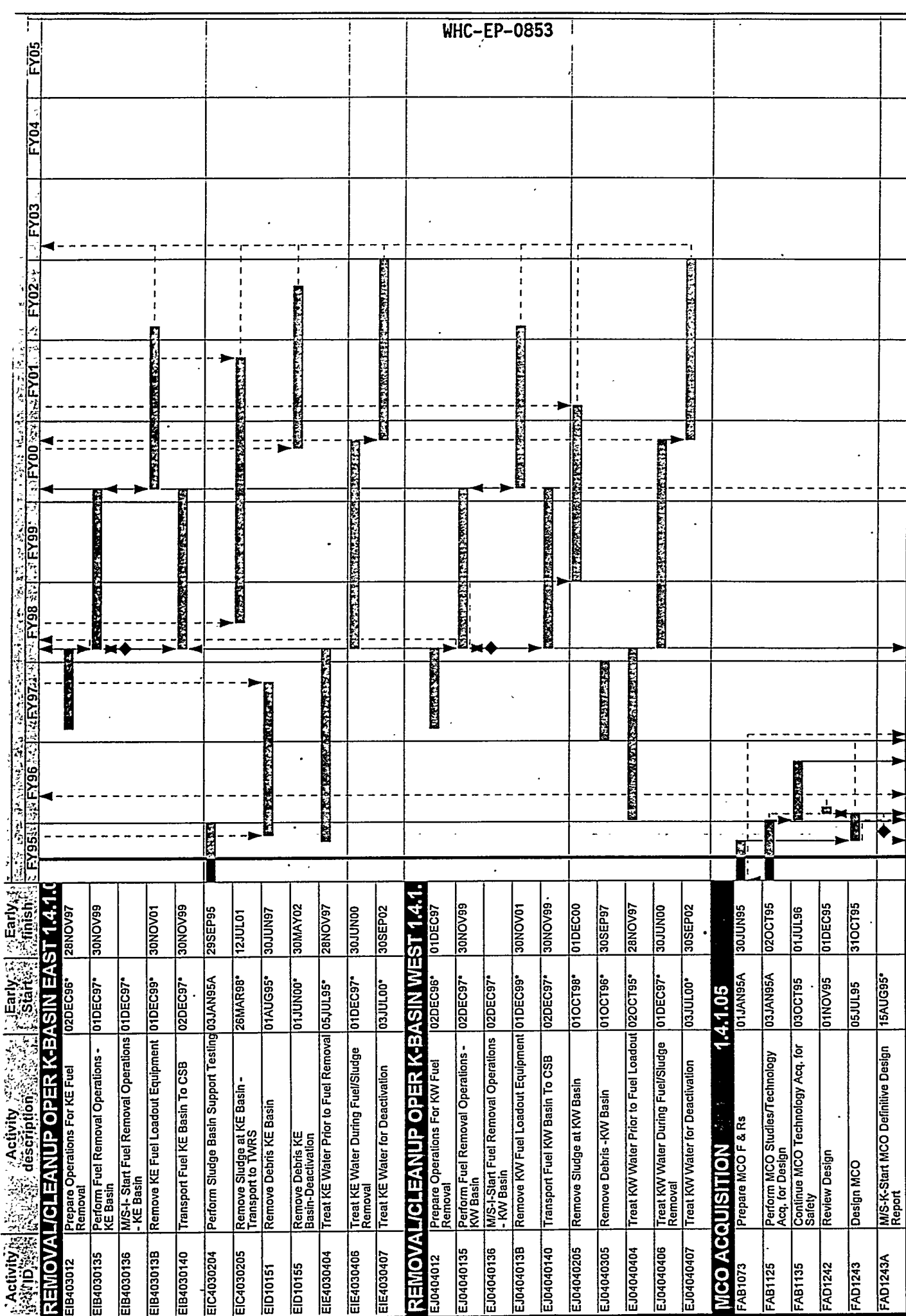


Project Start: 01OCT92
Project Finish: 01JUL03
Data Date: 15APR95
Plot Date: 09AUG95

Legend:
Early Start
Early Finish
Progress Bar

Scale: 1" = 1 Year

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Sheet 5 of 12

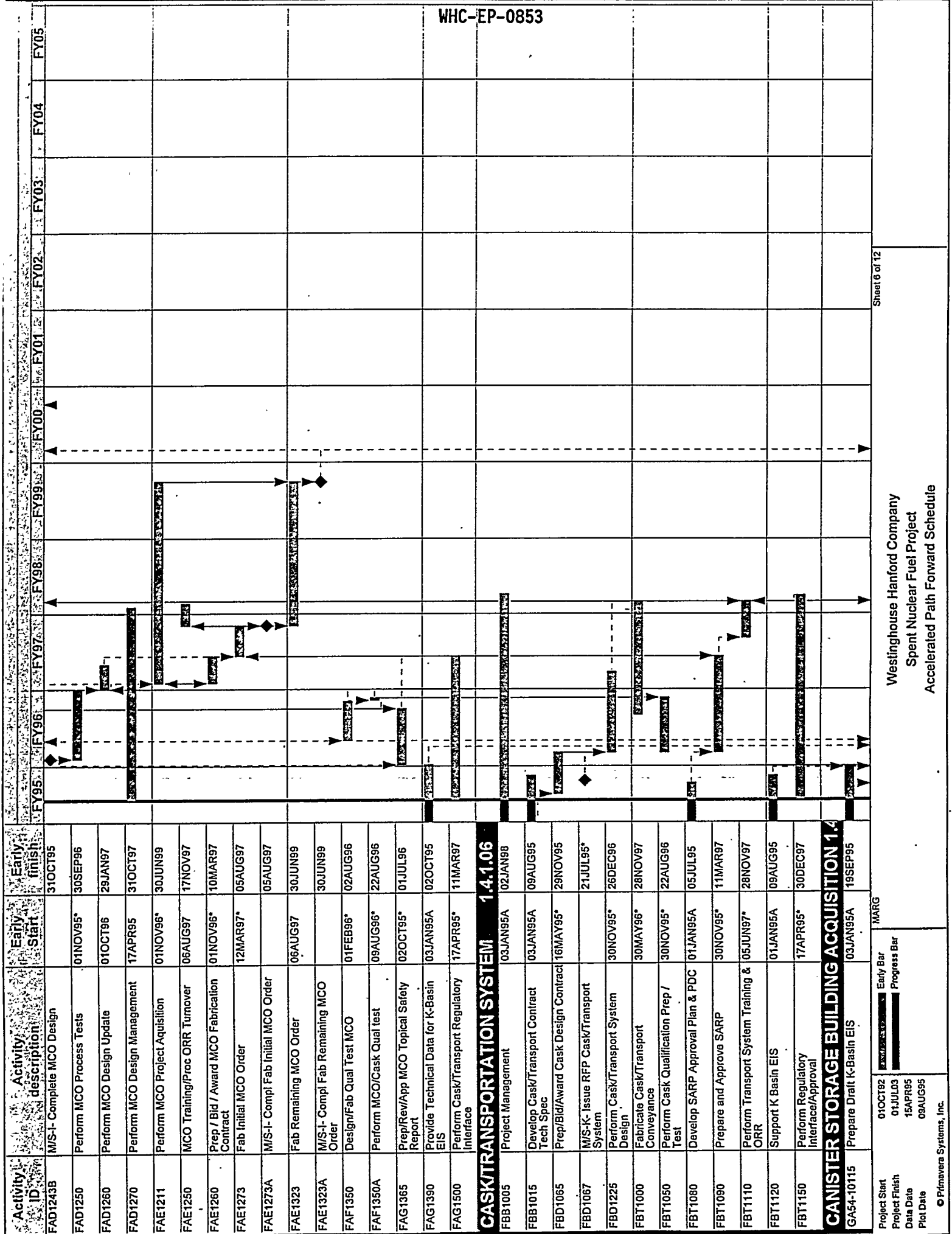
Westinghouse Hanford Company
Spent Nuclear Fuel Project
Accelerated Path Forward Schedule

MARG

Project Start: 01OCT92
Project Finish: 01JUL03
Data Date: 15APR95
Plot Date: 09AUG95

Legend: Early Bar (solid black), Progress Bar (hatched)

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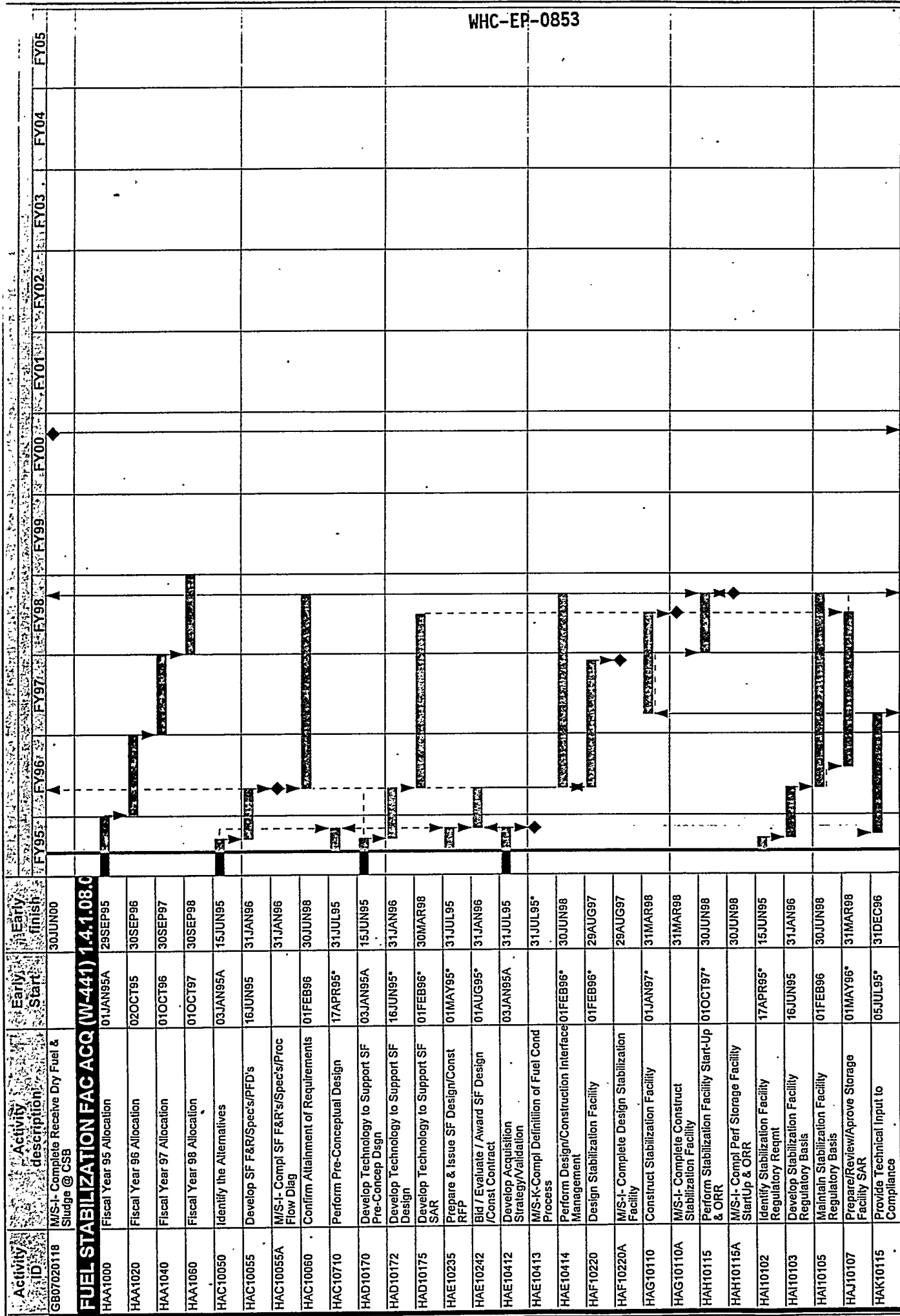
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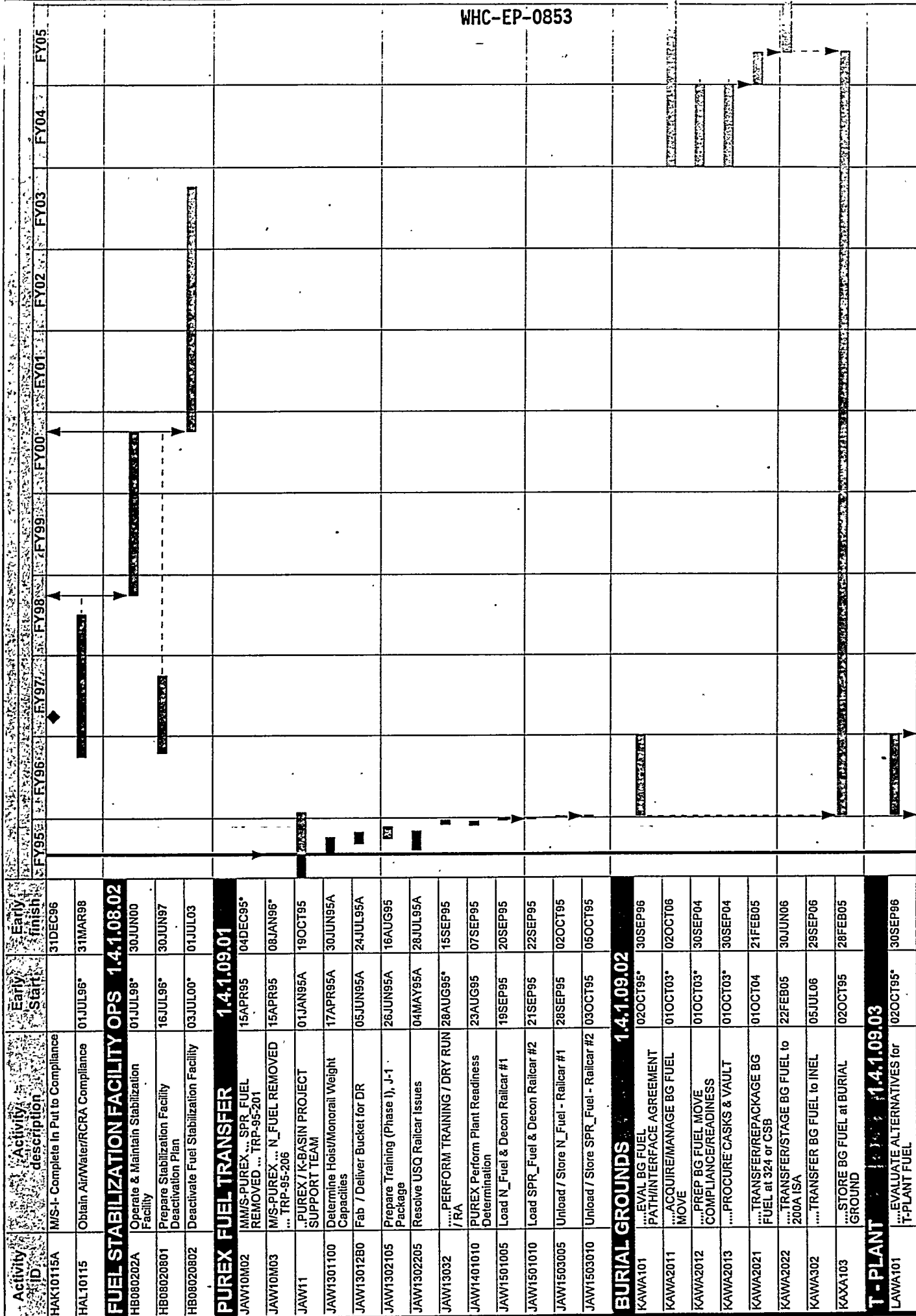
Westinghouse Hanford Company
 Spent Nuclear Fuel Project
 Accelerated Path Forward Schedule

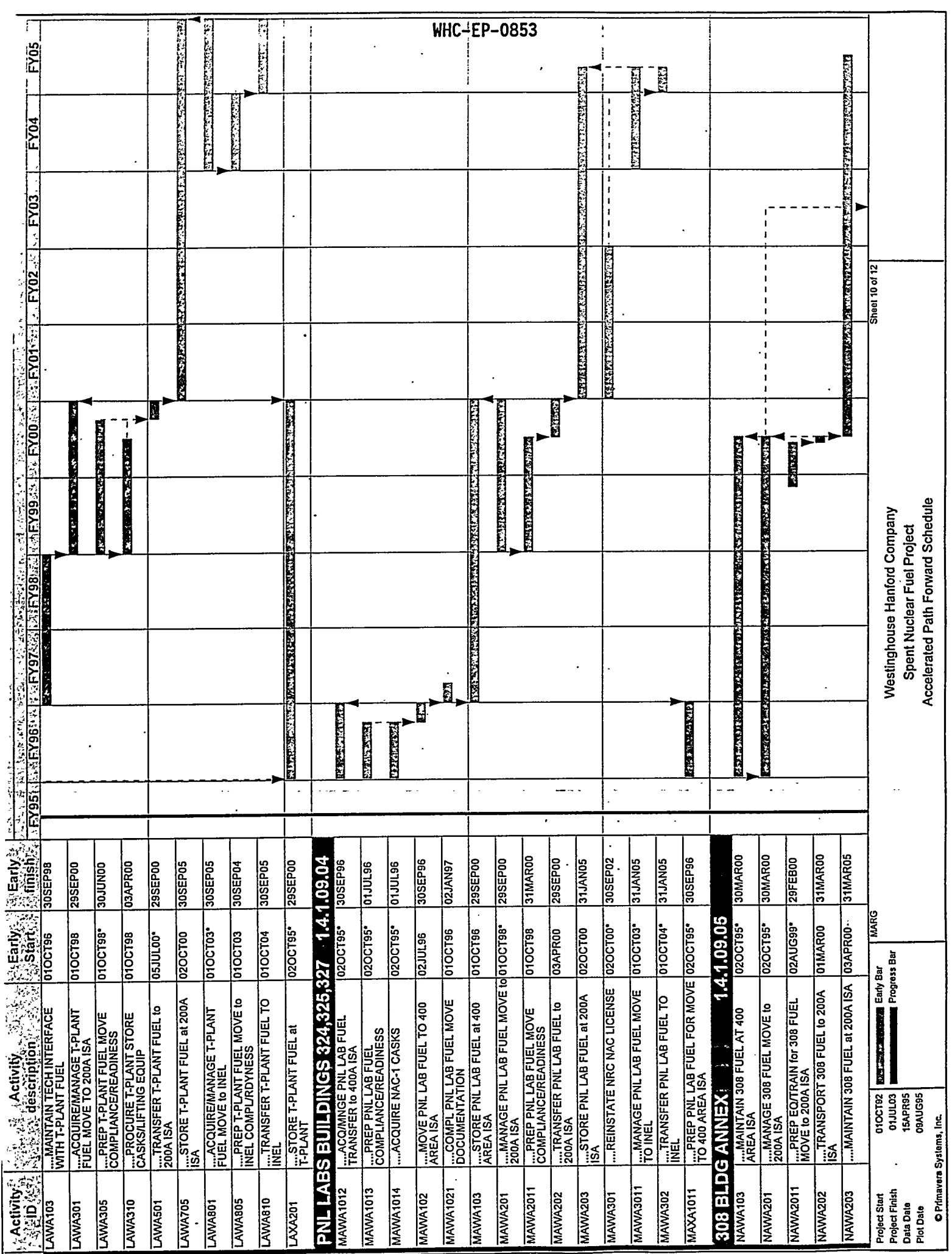
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Plot Date 08AUG95

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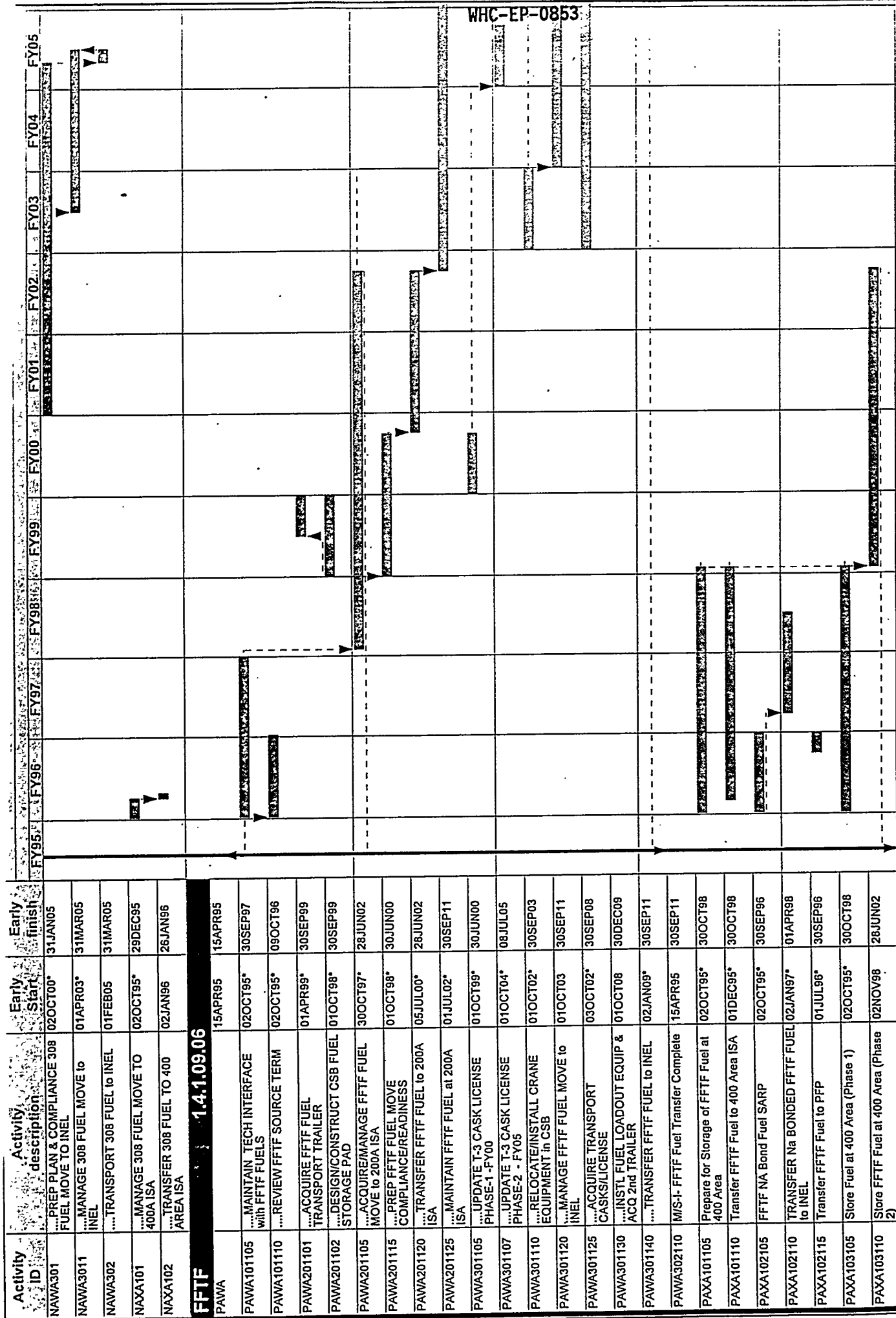
Sheet 10 of 12

Westinghouse Hanford Company
Spent Nuclear Fuel Project
Accelerated Path Forward Schedule

MARG



Project Start: 01OCT92
 Project Finish: 01JUL03
 Data Date: 15APR95
 Plot Date: 09AUG95
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Activity ID	Activity description	Early Start	Early finish	FY95	FY96	FY97	FY98	FY99	FY00	FY01	FY02	FY03	FY04	FY05
PAXA103115	M/S Turnover 400 Area ISA to ER Program	15APR95	28JUN02											
PFP 1.4.1.09.07														
RAWA101	PREPARE PFP FUEL ALTERNATIVES STUDY	02OCT95*	30SEP96											
RAWA1011	MAINTAIN TECH INTERFACE with PFP FUEL	01OCT96	30SEP99											
RAWA3010	MANAGE PFP FUEL REPACKAGING	01OCT99	31JAN02											
RAWA3013	ACQUIRE TRIGA CASKS & STORAGE VAULTS	02OCT00*	28SEP01											
RAWA3014	PREP PFP FUEL PACKAGING COMPLIANCE/READINESS	02OCT00	31OCT01											
RAWA3020	MOVE PFP FUEL to CSB or 324 HOT CELL	01NOV01	30NOV01											
RAWA3022	REPACKAGE PFP FUEL to NRF TRIGA CASK	03DEC01	28DEC01											
RAWA30231	RETURN PFP FUEL to PFP	02JAN02*	31JAN02											
RAWA30232	PREP PFP MOVE to INEL COMPLEADINESS	01OCT07*	31OCT08											
RAWA30233	MANAGE PFP FUEL MOVE to INEL	01OCT07	29MAY09											
RAWA3024	MOVE PFP FUEL TO 200A ISA	02JAN09*	30JAN09											
RAWA3026	STAGE PFP FUEL at 200A ISA	02FEB09	27FEB09											
RAWA3027	SUPPORT T-3 CASK LICENSE UPDATE - FY-00	01OCT99*	30JUN00											
RAWA3028	SUPPORT T-3 CASK LICENSE UPDATE - FY-05	01OCT04*	30SEP05											
RAWA3029	TRANSFER PFP FUEL TO INEL	02MAR09*	01JUN09											
RAX103	STORE PFP FUEL at PFP (1.4 -Resp)	02OCT95*	01DEC08											
N-REACTOR FUEL 1.4.1.09.08														
SAW1100000	..N-REACTOR / K-BASIN PROJECT SUPPORT TEAM	02JAN96*	12AUG96											
SAW1202100	Prepare PDC	22FEB96	15MAY96											
SAW1203400	Prepare SEP	22FEB96	15MAY96											
SAW1302300	Prep KW Basin NOC Air Permit	22FEB96	20MAR96											
SAW1302315	DOE Review and Approval	05APR96	02MAY96											
SAW1303205	Perform Dry Practice Run	07JUN96	20JUN96											
SAW1501005	Load N_Fuel & Decon Railcar #1	18JUL96	19JUL96											
SAW1503000	Unload / Store N_Fuel - Railcar #1	25JUL96	29JUL96											
SAW1701005	Project Close-out / Lessons Learned	13AUG96	23SEP96											

Project Start

01OCT92

Project Finish

01JUL03

Plot Date

09AUG95

Early Bar

Progress Bar

Project Start

01OCT92

Project Finish

01JUL03

Plot Date

09AUG95

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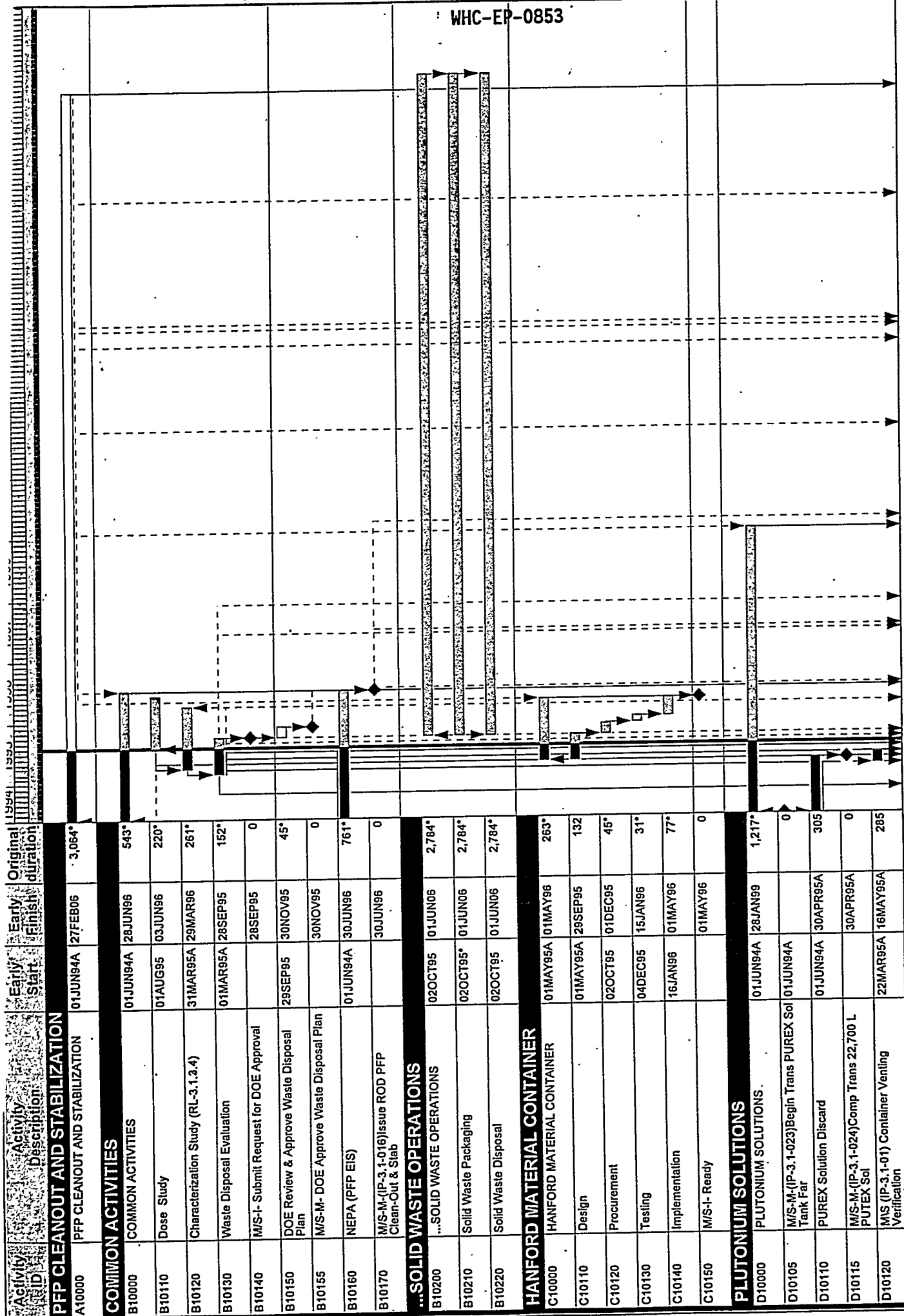
Spent Nuclear Fuel Project

Accelerated Path Forward Schedule

Sheet 12 of 12

APPENDIX B

PLUTONIUM-BEARING MATERIALS SCHEDULES



Sheet 1 of 8

Westinghouse Hanford Company
PFP Cleanup & Stabilization
SISMP

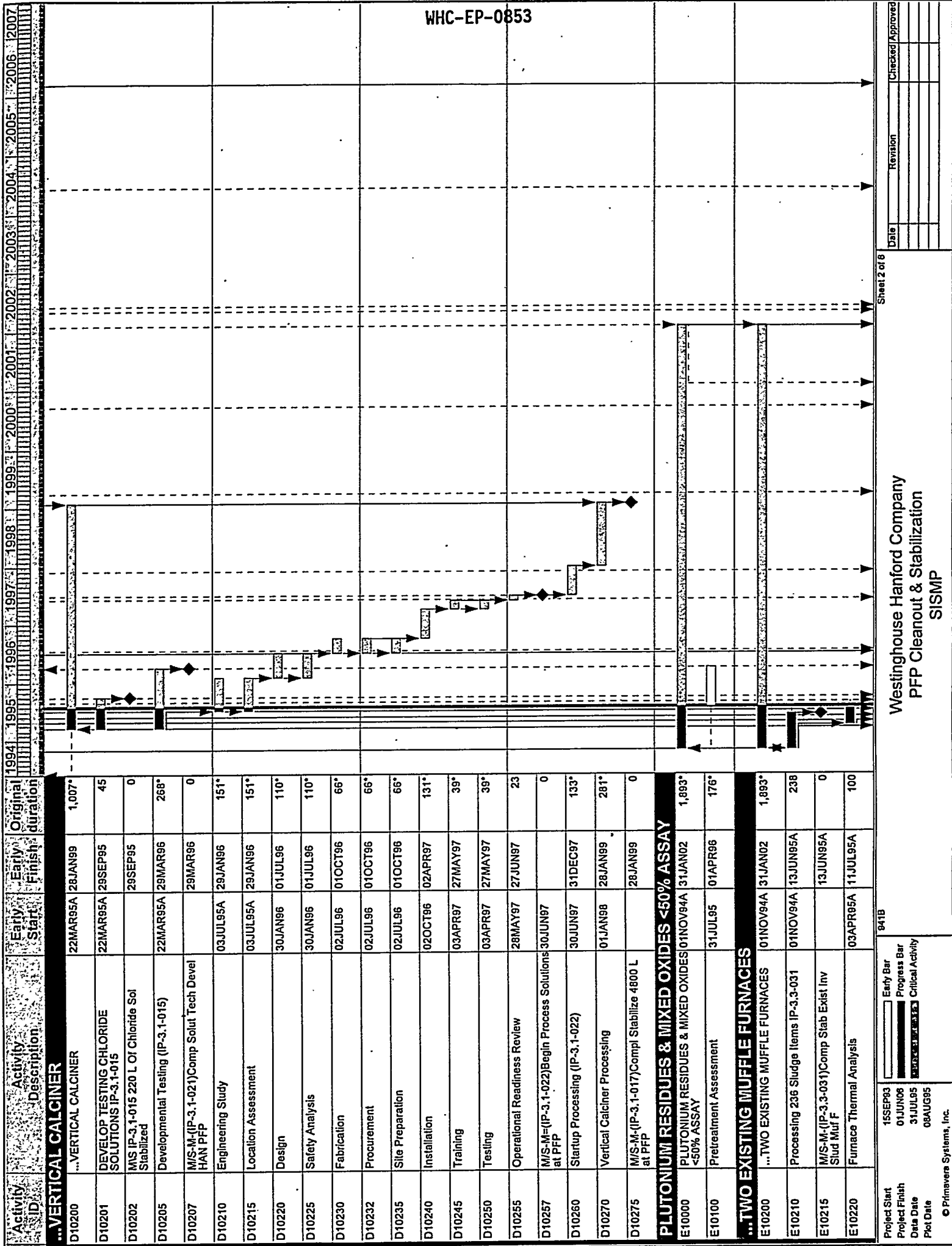
941B

Project Start: 15SEP93
Project Finish: 01JUN96
Data Date: 31JUL95
Plot Date: 08AUG95

Legend:
Early Bar
Progress Bar
Critical Activity

Checked/Approved: _____
Revision: _____
Date: _____

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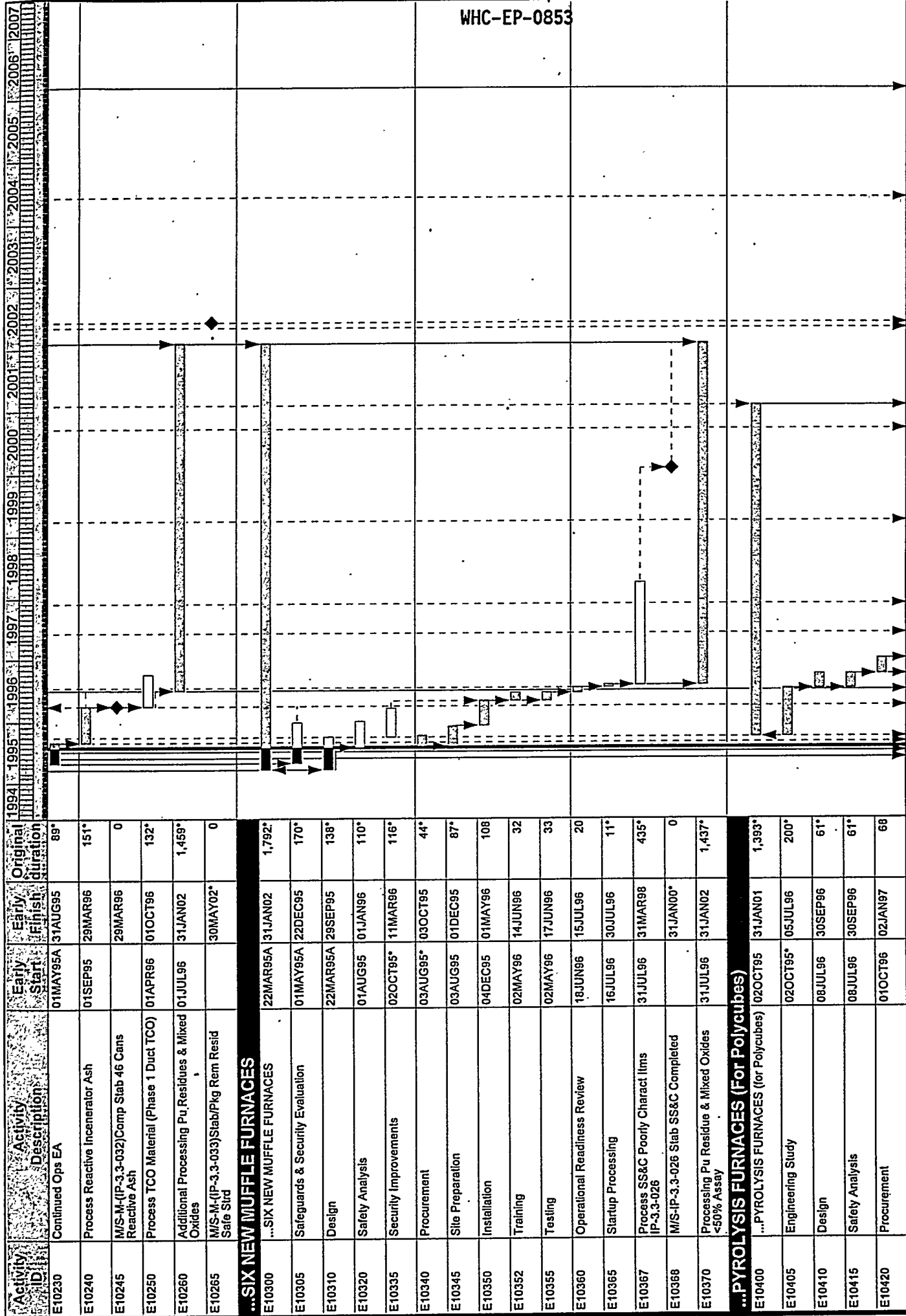


Westinghouse Hanford Company
PFP Cleanup & Stabilization
SISMP

941B

Project Start 15SEP93
Project Finish 01JUN06
Data Date 31JUL95
Plot Date 08AUG95

Legend:
Early Bar
Progress Bar
Critical Activity



Sheet 3 of 8

Westinghouse Hanford Company
PFP Cleanup & Stabilization
SISMP

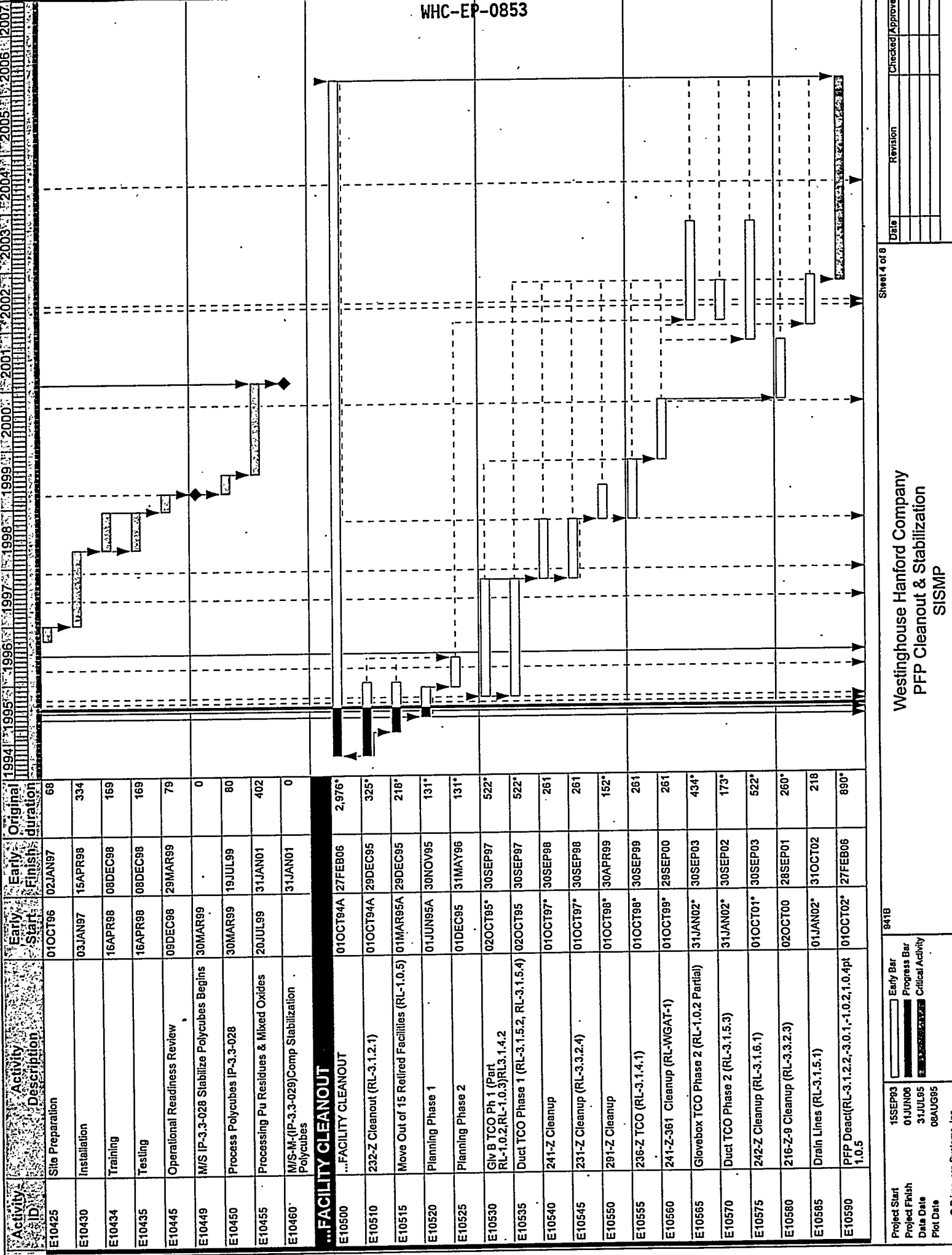
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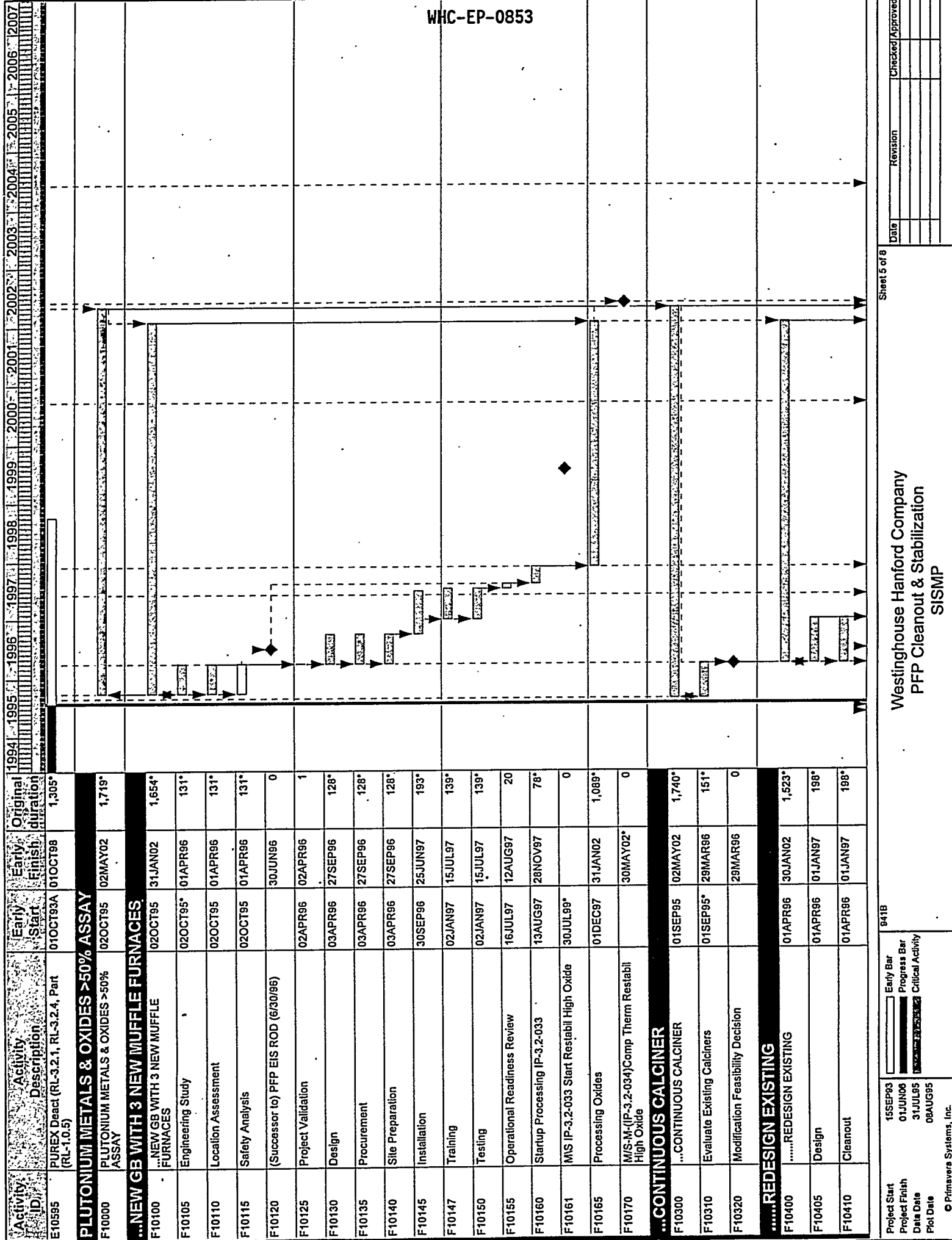
Project Start 15SEP93
Project Finish 01JUN08
Data Date 31JUL95
Plot Date 08AUG95

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Early Bar
Progress Bar
Critical Activity

Date	Revision	Checked	Approved





Sheet 5 of 8

Westinghouse Hanford Company
PFP Cleanout & Stabilization
SISMP

841B

Project Start 15SEP93
Project Finish 01JUN06
Data Date 31JUL95
Plot Date 08AUG95

Early Bar
Progress Bar
Critical Activity

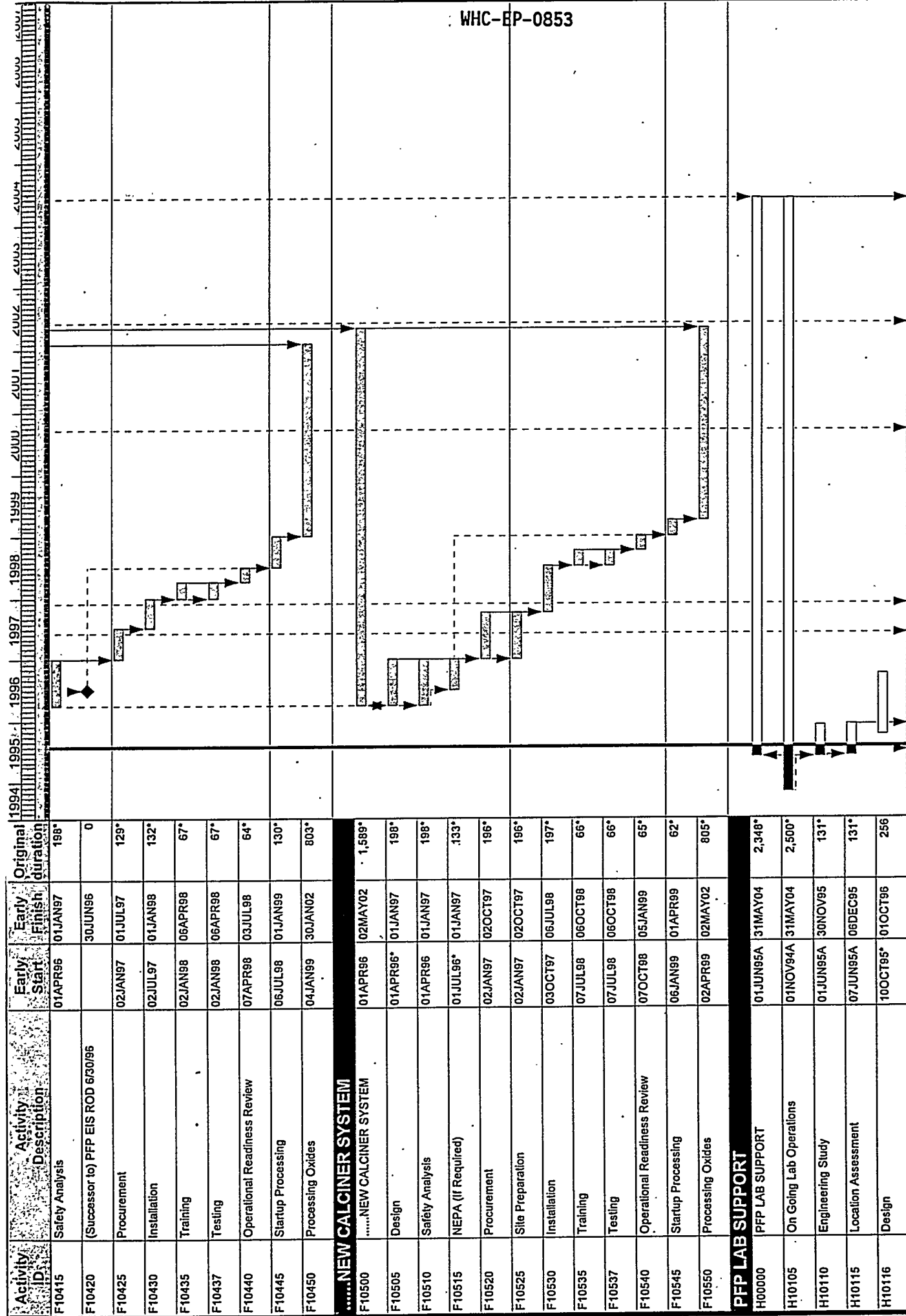
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Date

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Westinghouse Hanford Company
PFP Cleanup & Stabilization
SISMP

Sheet 6 of 8

Project Start: 15SEP93
Project Finish: 01JUN98
Data Date: 31JUL95
Plot Date: 08AUG95

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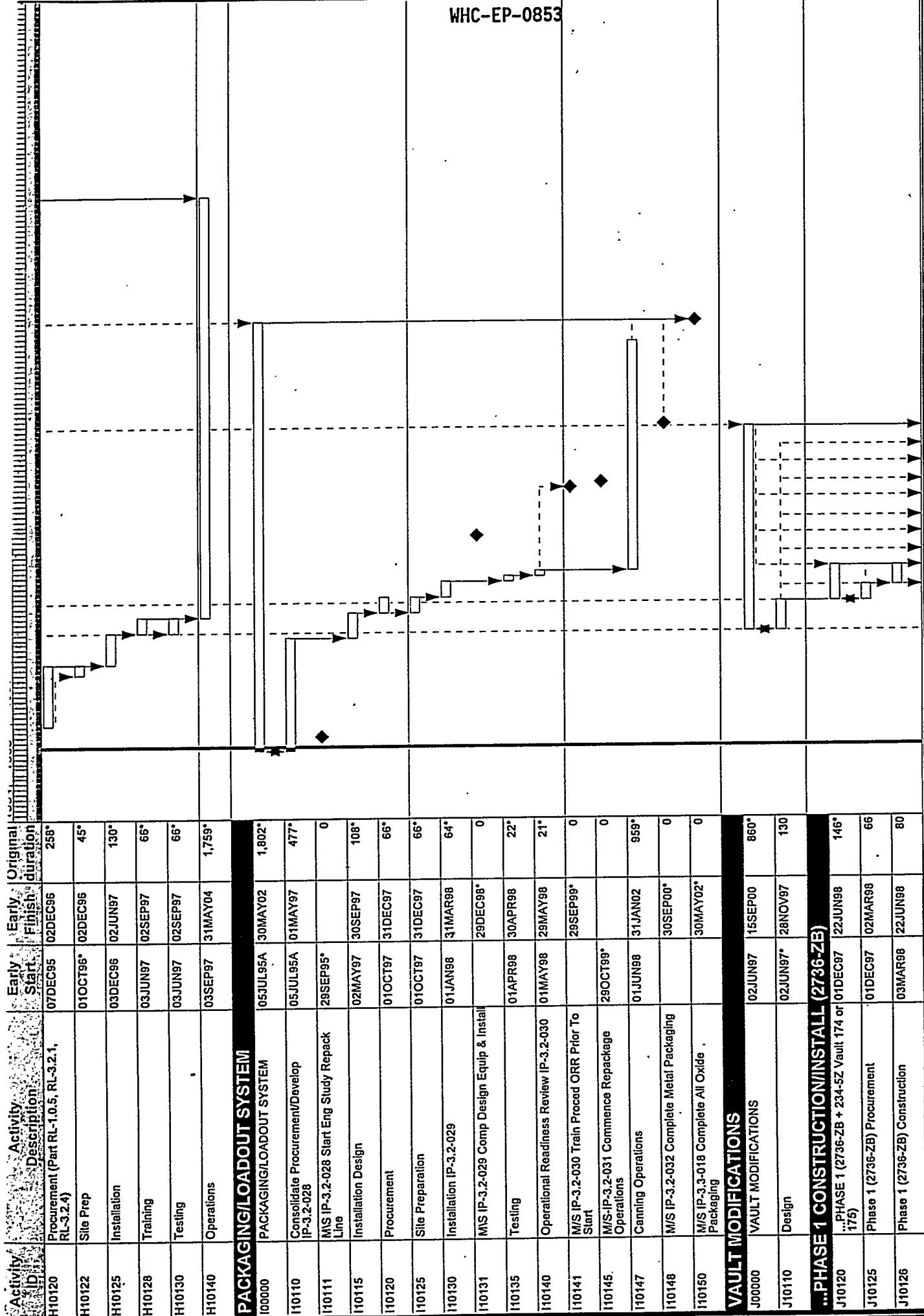
Legend: Early Bar (white), Progress Bar (black), Critical Activity (thick black)

15SEP93
01JUN98
31JUL95
08AUG95

941B

Early Start
Early Finish
Data Date
Plot Date

Version: _____
Checked: _____
Approved: _____



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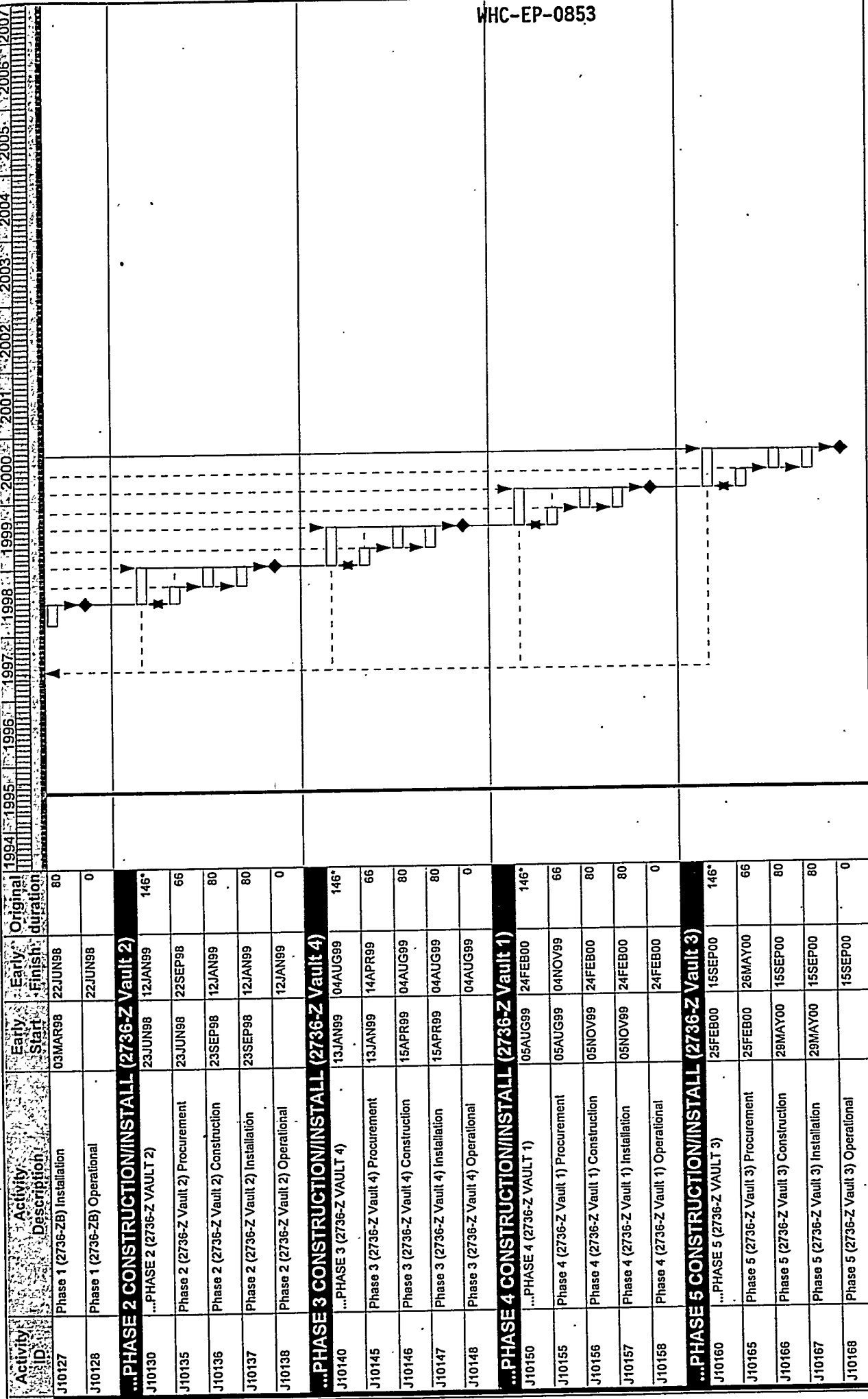
Westinghouse Hanford Company
PFP Cleanup & Stabilization
SISMP

Date	Revision	Checked/Approved

941B

Project Start	15SEP93	Early Bar
Project Finish	01JUN06	Progress Bar
Data Date	31JUL95	Critical Activity
Plot Date	08AUG95	

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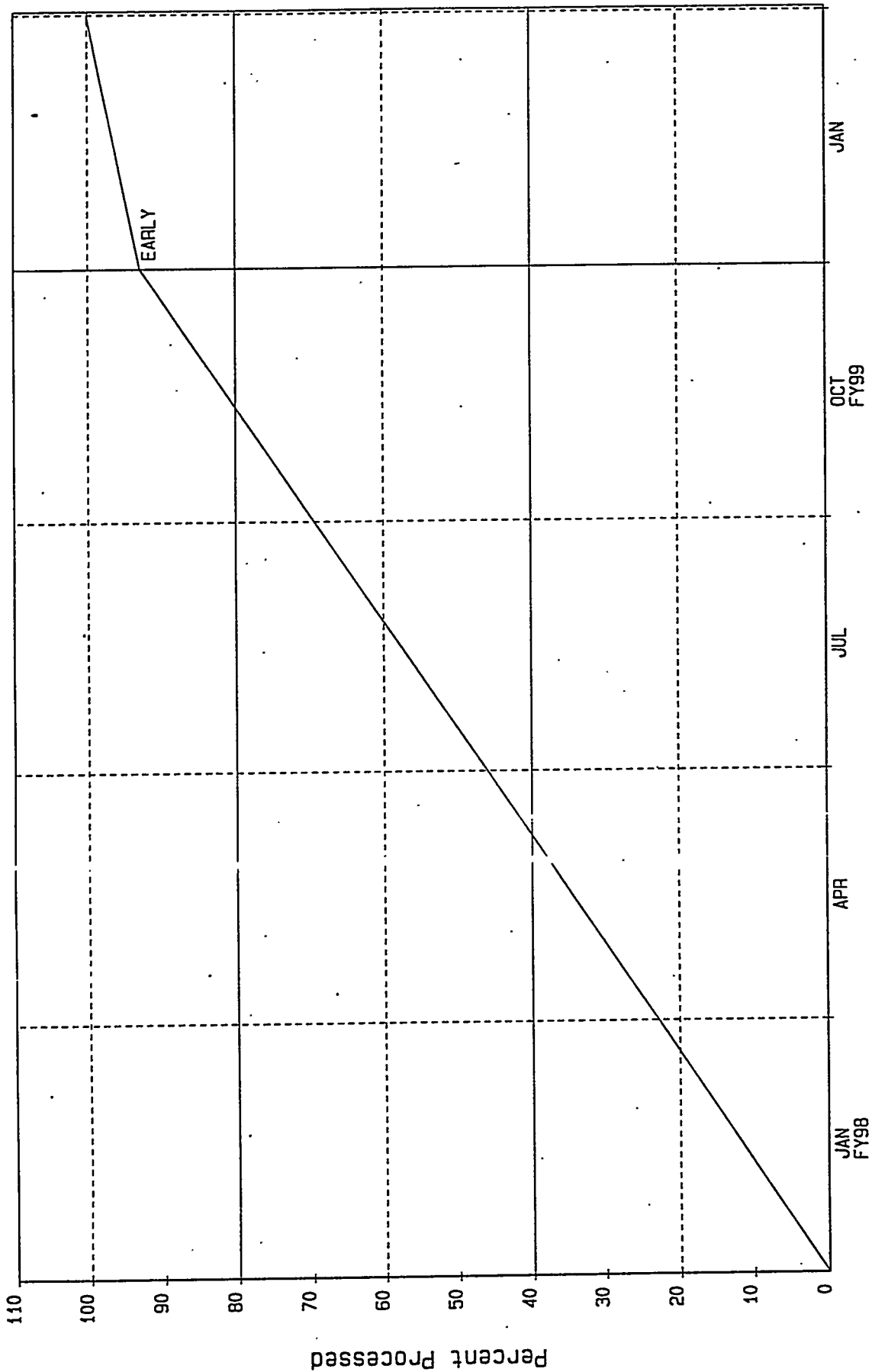
Westinghouse Hanford Company
PFP Cleanup & Stabilization
SISMP

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Project Finish 01JUN06
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Plot Date 08AUG95

Early Bar
Progress Bar
Critical Activity

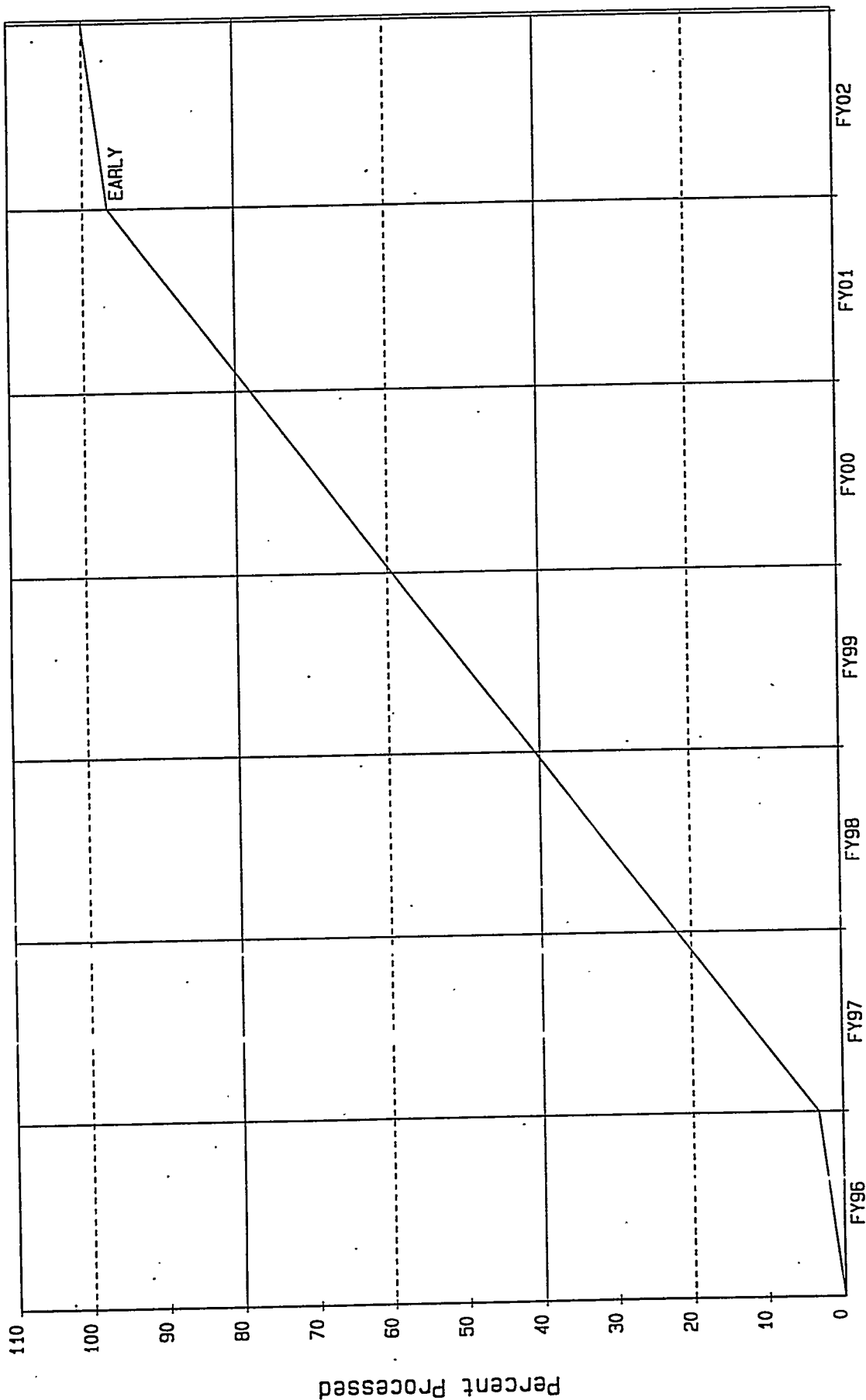
PLUTONIUM SOLUTIONS



Date

Project Start 15SEP93		Schedule date 9/19		Sheet 1 of 1	
Project Finish 29JUN07					
Data Date 15APR95					
Plot Date 18APR95					
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PFP Cleanup & Stabilization					
Pu Solutions					
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				Revision	
				Checked	
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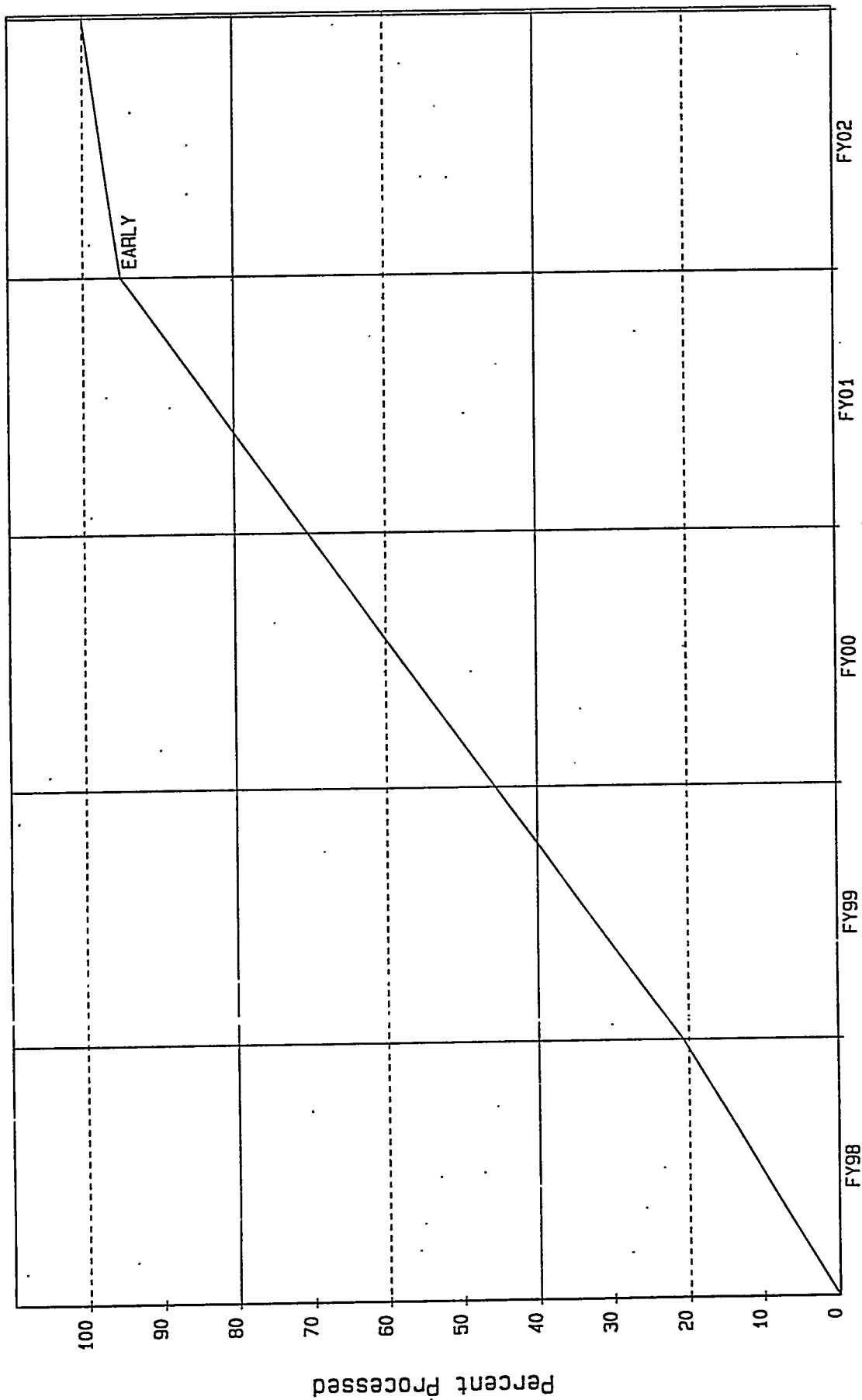
PLUTONIUM RESIDUES & MIXED OXIDES



Date

Project Start 15SEP93	Schedule date 5/18	Sheet 1 of 1	-----DRAFT-----		
Project Finish 29JUN07			Revision	Checked	Approved
Date Date 15APR95					
Plot Date 18APR95					
(c) Primavera Systems, Inc.		Westinghouse Hanford Company PFP Cleanup & Stabilization Pu Residues & Mixed Oxides			

PLUTONIUM METALS & OXIDES



Project Start: 15SEP93		Schedule date: 9419		Sheet 1 of 1	
Project Finish: 29JUN07		Westinghouse Hanford Company			
Data Date: 15APR95		PFP Cleanup & Stabilization			
Plot Date: 18APR95		Pu Metals & Oxides			
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(1995 DOLLARS)

		FY 1995	FY 1996	FY 1997	FY 1998	FY 1999	FY 2000	FY 2001	FY 2002	TOTAL \$ DNFSD 94-1	FY 2003	FY 2004	TOTAL \$ FY 2004
LABOR COSTS													
LABOR TYPE	CODE	FTE	51	44	34	32	27	24	29		22	20	
	- E100	\$	5,923,008	5,160,864	3,903,810	3,762,304	3,168,256	2,748,928	3,342,976	28,059,152	2,504,320	2,271,360	4,775,680
	- F052	\$	5,147,584	6,793,280	6,946,368	7,778,784	7,307,360	5,932,160	4,582,640	44,558,176	2,200,640	1,722,240	3,022,880
	- T050	\$	848,640	1,402,752	1,198,080	1,248,000	1,198,080	848,640	898,560	7,642,752	399,360	199,680	599,040
	- M010	\$	485,920	485,920	485,920	485,920	485,920	485,920	485,920	3,261,440	232,960	232,960	465,920
	- M032	\$	0	0	0	0	0	0	0	0	0	0	0
	- L080	\$	0	0	0	0	0	0	0	0	0	0	0
	- C120	\$	0	114,400	114,400	114,400	114,400	0	0	457,600	0	0	0
	- S090	\$	1,504,090	1,402,953	1,452,173	1,360,320	1,360,320	1,310,400	1,297,920	9,697,475	1,148,160	1,148,160	2,296,320
	- T080	\$	429,811	349,440	582,400	502,400	582,400	582,400	582,400	3,691,251	349,440	349,440	698,880
	- T030	\$	549,120	594,880	732,160	732,160	732,160	732,160	732,160	4,804,800	732,160	732,160	1,464,320
	- G043	\$	183,040	183,040	183,040	183,040	183,040	183,040	183,040	1,281,280	91,520	91,520	183,040
		\$	116,480	116,480	116,480	116,480	116,480	116,480	116,480	815,360	116,480	116,480	232,960
	Subtotal	\$	15,107,893	10,582,509	15,774,637	16,343,808	15,288,416	12,930,128	12,212,096	104,289,286	7,775,040	6,804,000	14,639,040
NON-LABOR COSTS													
Mats & Capital Equipment		\$	2,912,800	4,242,300	8,954,800	615,800	605,800	525,800	191,300	18,048,600	135,000	135,000	270,000
KEH Subcontract		\$	950,000	700,000	3,200,000	500,000	400,000	0	0	5,750,000	0	0	0
Disposal Assessments		\$	460,000	1,840,000	2,300,000	3,450,000	3,450,000	2,300,000	2,300,000	16,100,000	1,150,000	1,150,000	2,300,000
Subtotal		\$	4,322,800	6,782,300	14,454,800	4,565,800	4,455,800	2,825,800	2,491,300	39,898,600	1,285,000	1,285,000	2,570,000
Note: Included in the above "Non-Labor Costs" are the following subtotals:													
GPP - Expense		\$	116,480	0	0	0	0	0	0	0	0	0	0
GPP - Capital		\$	701,840	1,086,720	478,893	0	0	0	0	0	0	0	0
GENRTC		\$	1,865,000	1,300,000	0	0	0	0	0	0	0	0	0
LI - Expense		\$	282,960	430,600	463,840	655,200	655,200	0	0	0	0	0	0
LI - Capital		\$	0	2,493,320	12,811,740	1,112,140	953,900	307,500	0	0	0	0	0
ALL COSTS		\$	19,490,493	23,364,809	30,229,437	20,909,608	19,744,216	15,745,928	14,703,396	144,187,886	9,060,040	8,149,000	17,209,040

NOTE: ASSUMES THAT THE PFP IS AT MINIMUM SAFE OPERATIONAL (MSO) STATUS, AS DEFINED IN 3295, WITH AN ACTUAL STAFF OF - 300 FTE's.

FORECASTS IN THIS ESTIMATE ARE FOR THOSE REQUIRED RESOURCES WHICH WOULD NOT BE AVAILABLE FROM PFP STAFF UNDER MSO CONDITIONS.

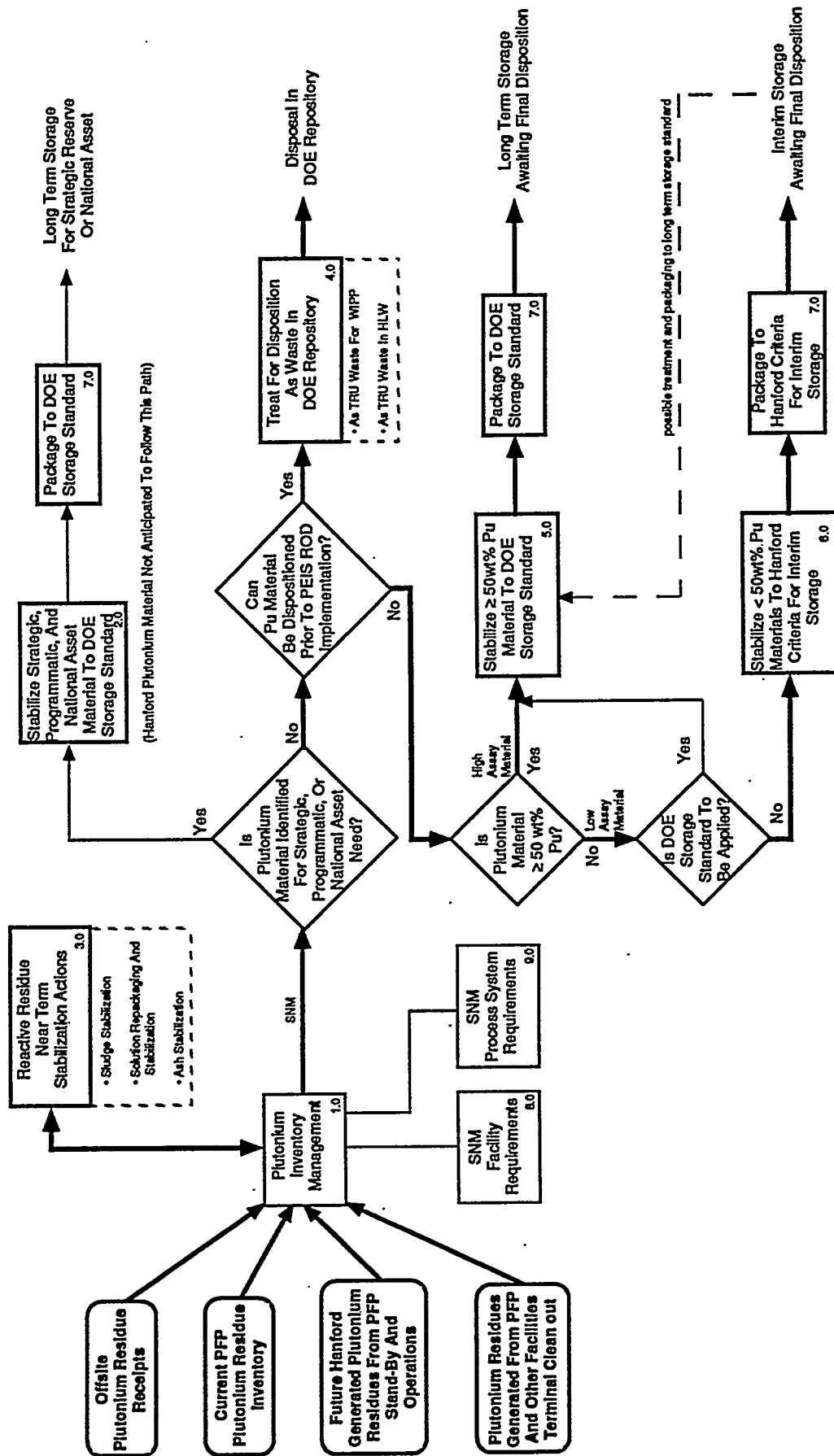
ALL THE ABOVE LABOR, MATERIAL, EQUIPMENT, AND SUBCONTRACT COSTS ARE DERIVED FROM PRELIMINARY INFORMATION AND BEST JUDGEMENT ESTIMATES BASED ON RELATED HANFORD EXPERIENCE.

THE ABOVE TOTALS ARE FOR BASE CASE CONDITIONS (E.G., CONTINUOUS CALCINER DEVELOPMENT AND OPERATIONS COSTS ARE NOT INCLUDED).

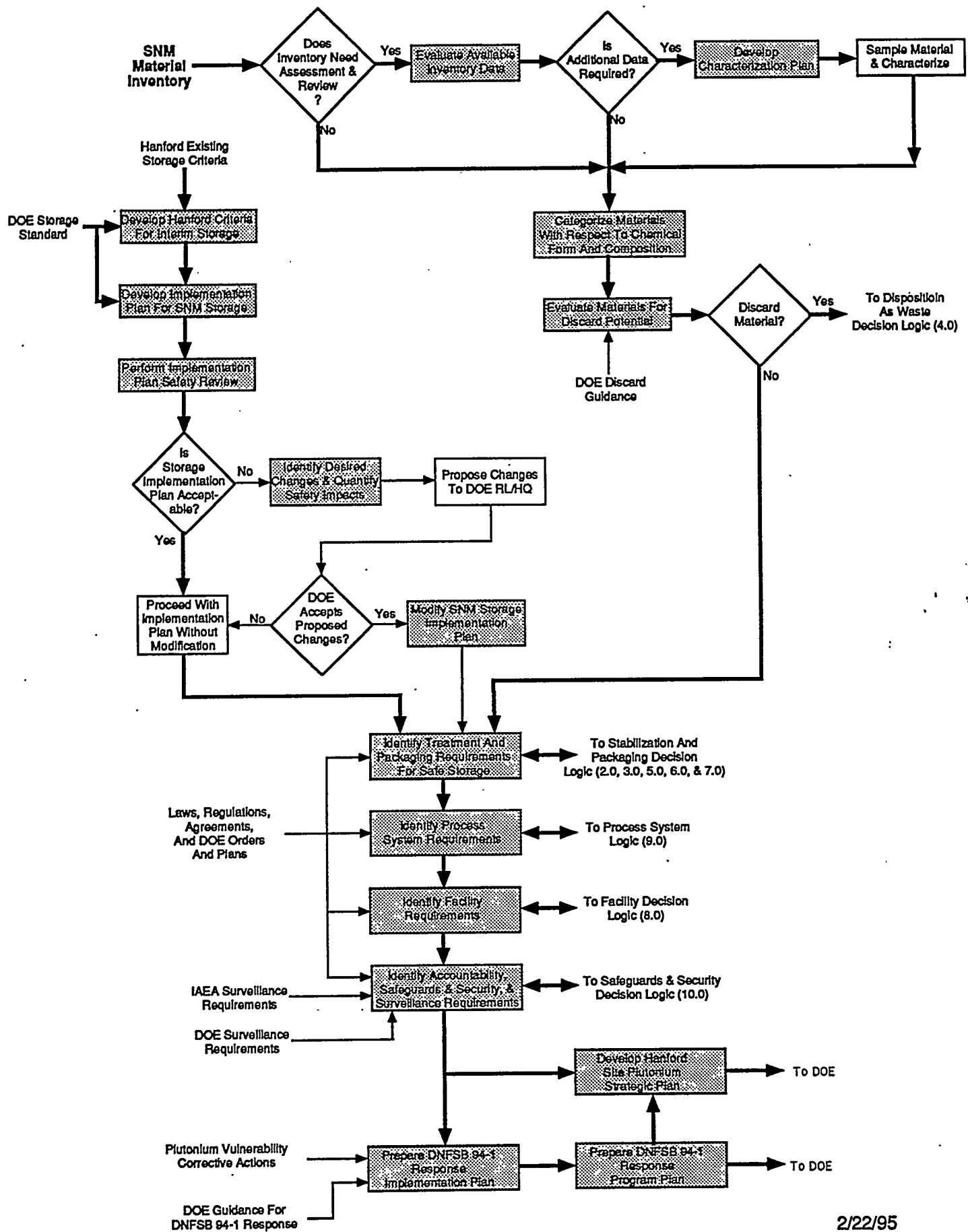
APPENDIX C

PLUTONIUM-BEARING MATERIALS
PROGRAMMATIC LOGIC DIAGRAMS

TOP-LEVEL PLUTONIUM DISPOSITION LOGIC

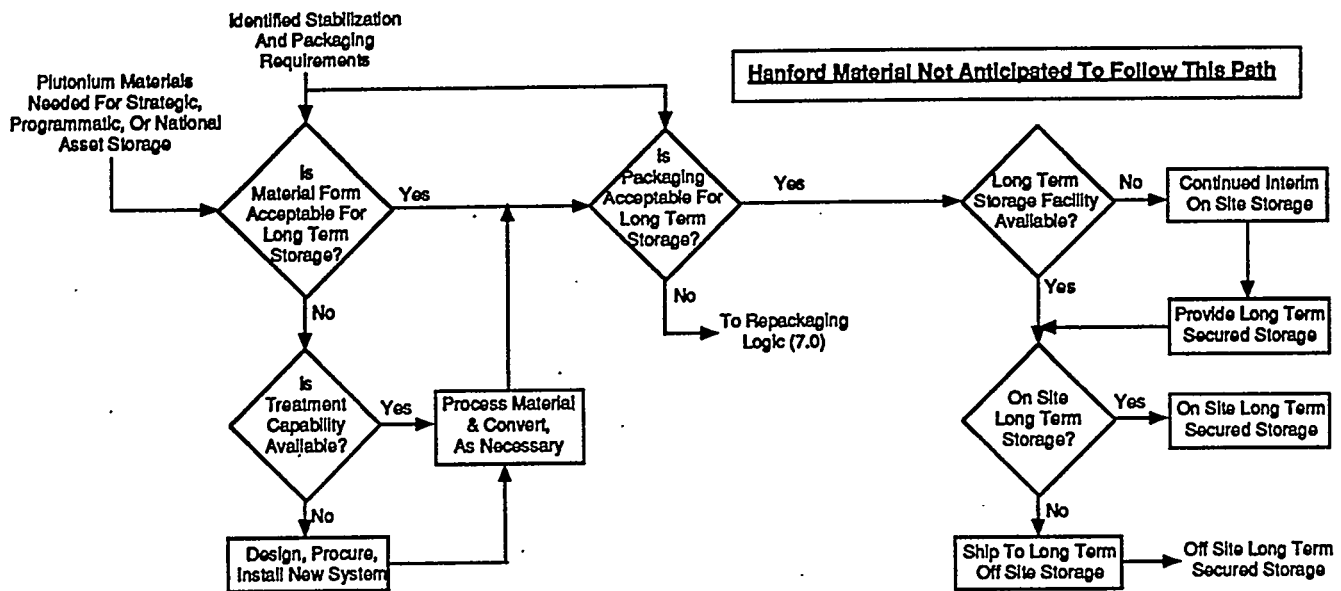


PLUTONIUM INVENTORY MANAGEMENT LOGIC (1.0)

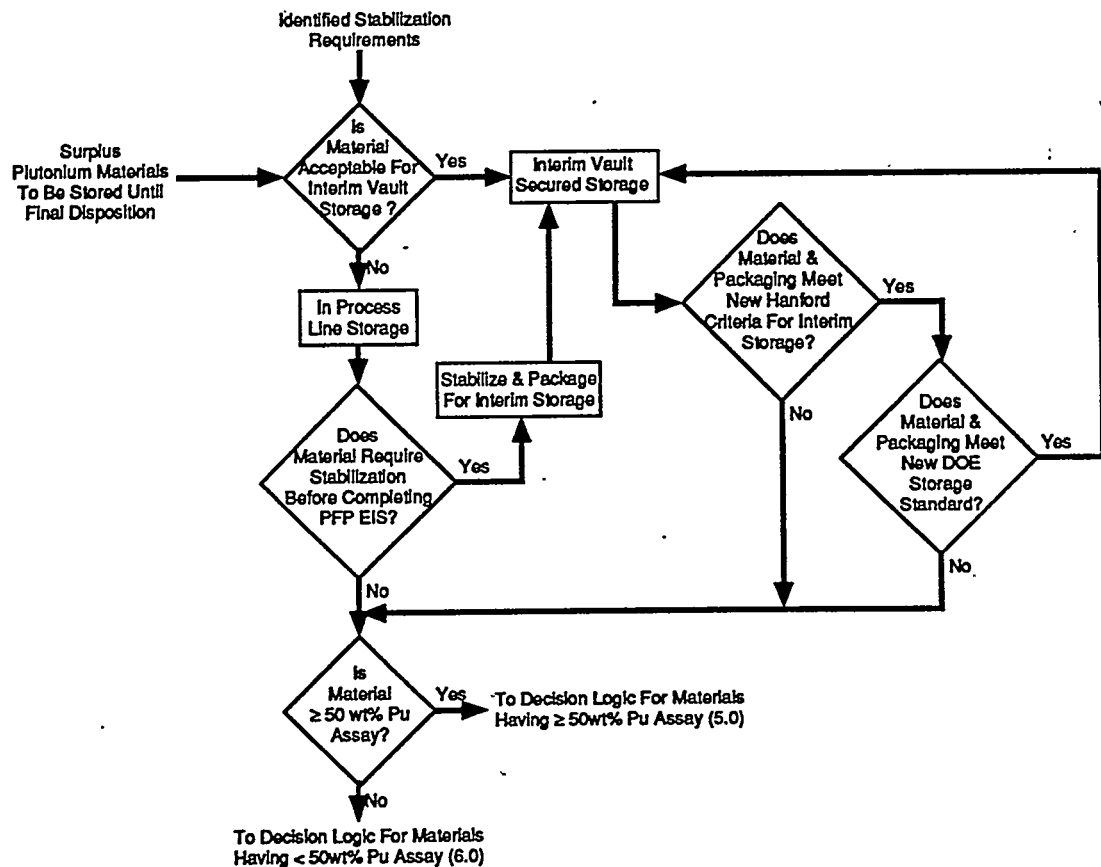


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DECISION LOGIC FOR STRATEGIC, PROGRAMMATIC, AND NATIONAL ASSET MATERIALS (2.0)

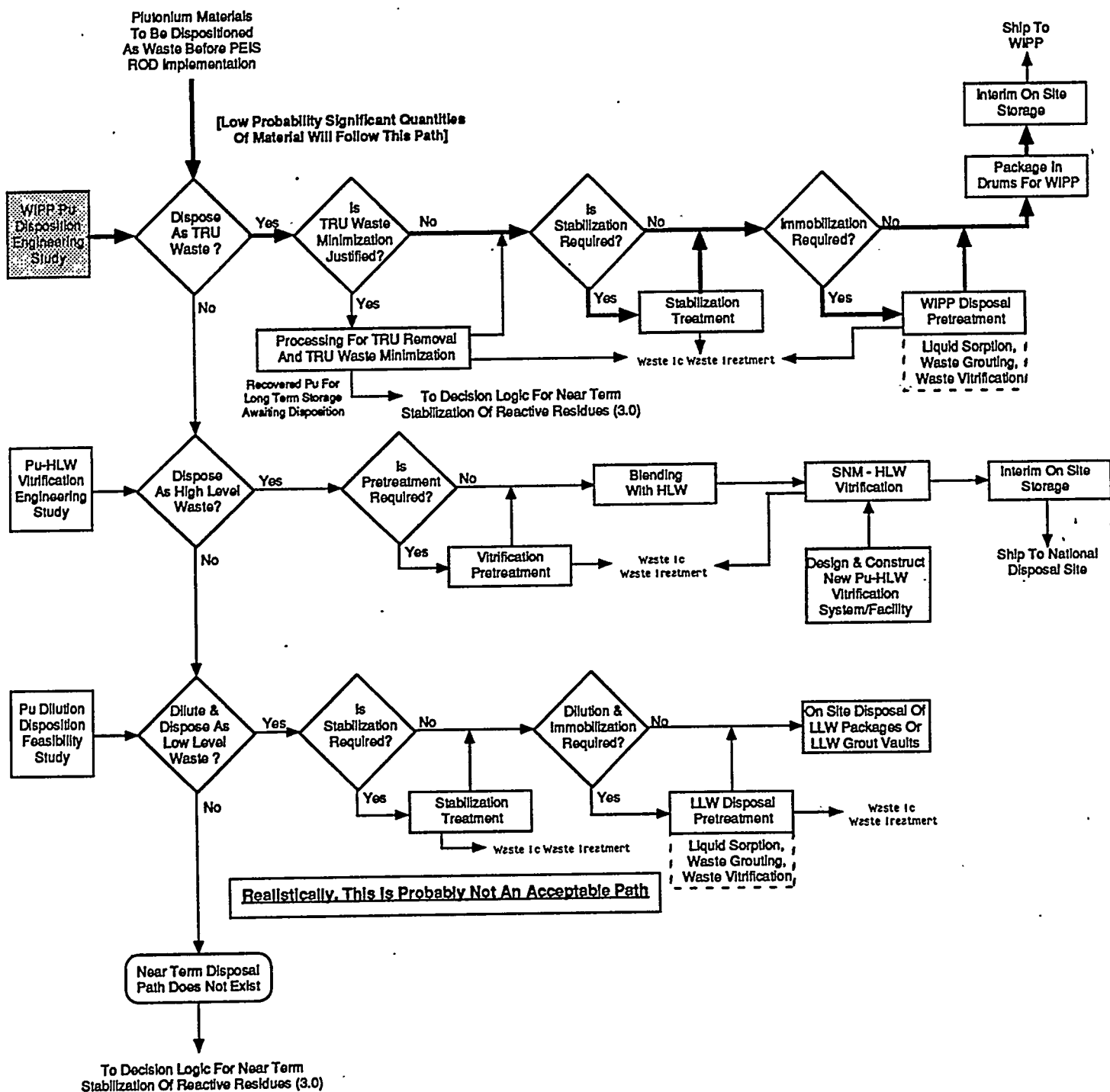


DECISION LOGIC FOR NEAR TERM STABILIZATION OF REACTIVE RESIDUES (3.0)



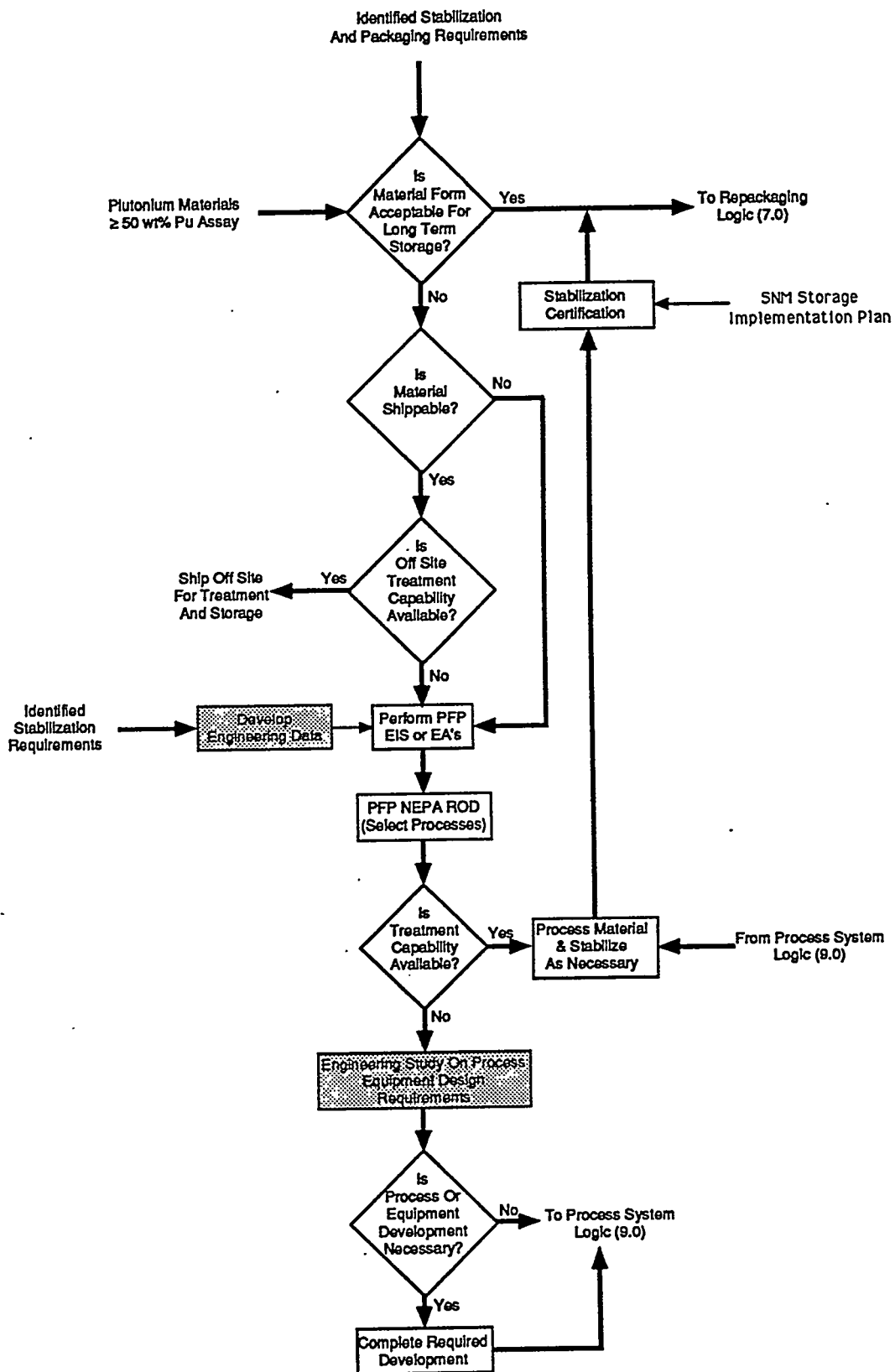
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DECISION LOGIC FOR DISPOSITION OF PLUTONIUM AS WASTE (4.0)



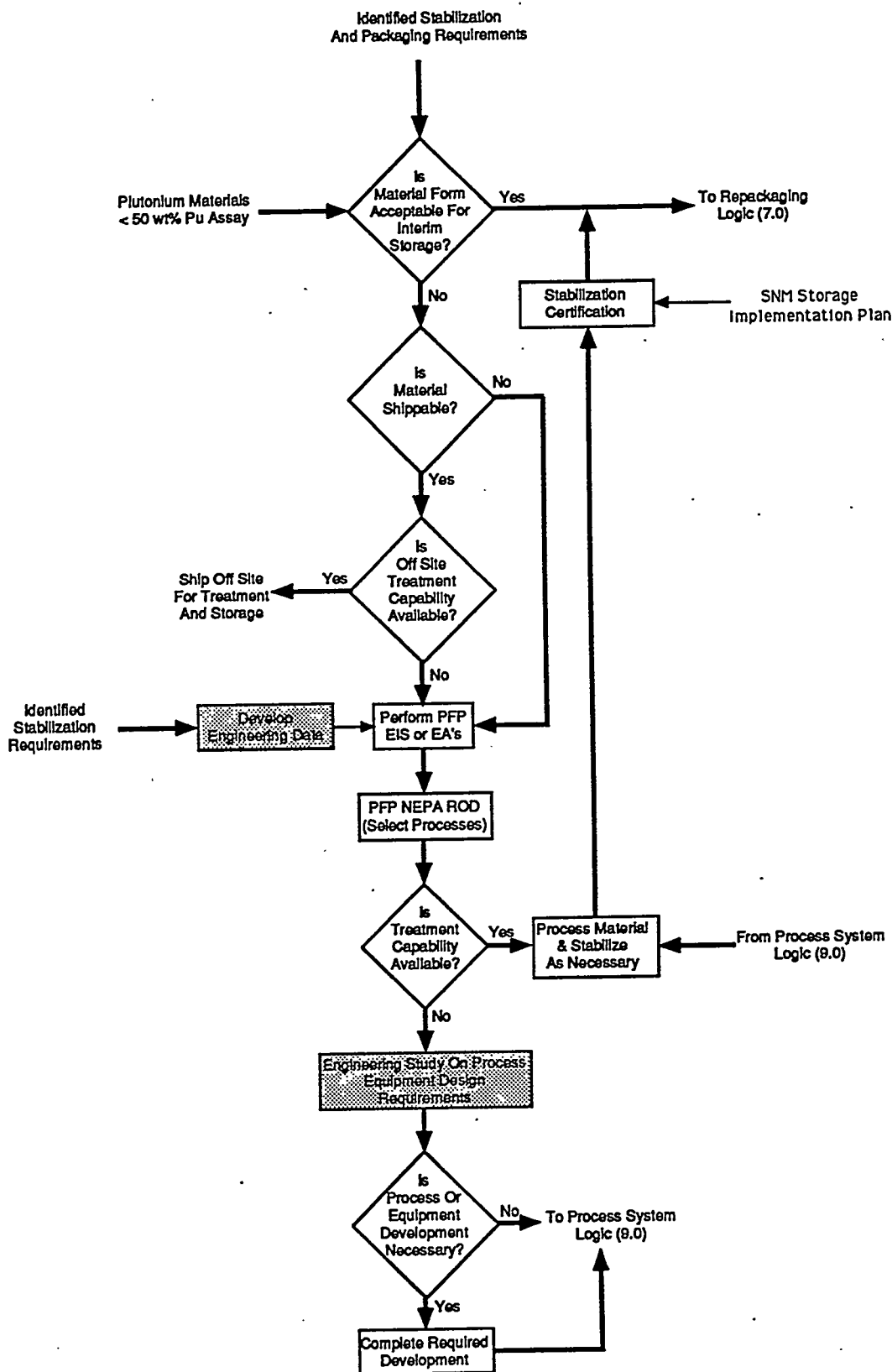
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DECISION LOGIC FOR MATERIALS ≥ 50 WT% PU ASSAY (5.0)



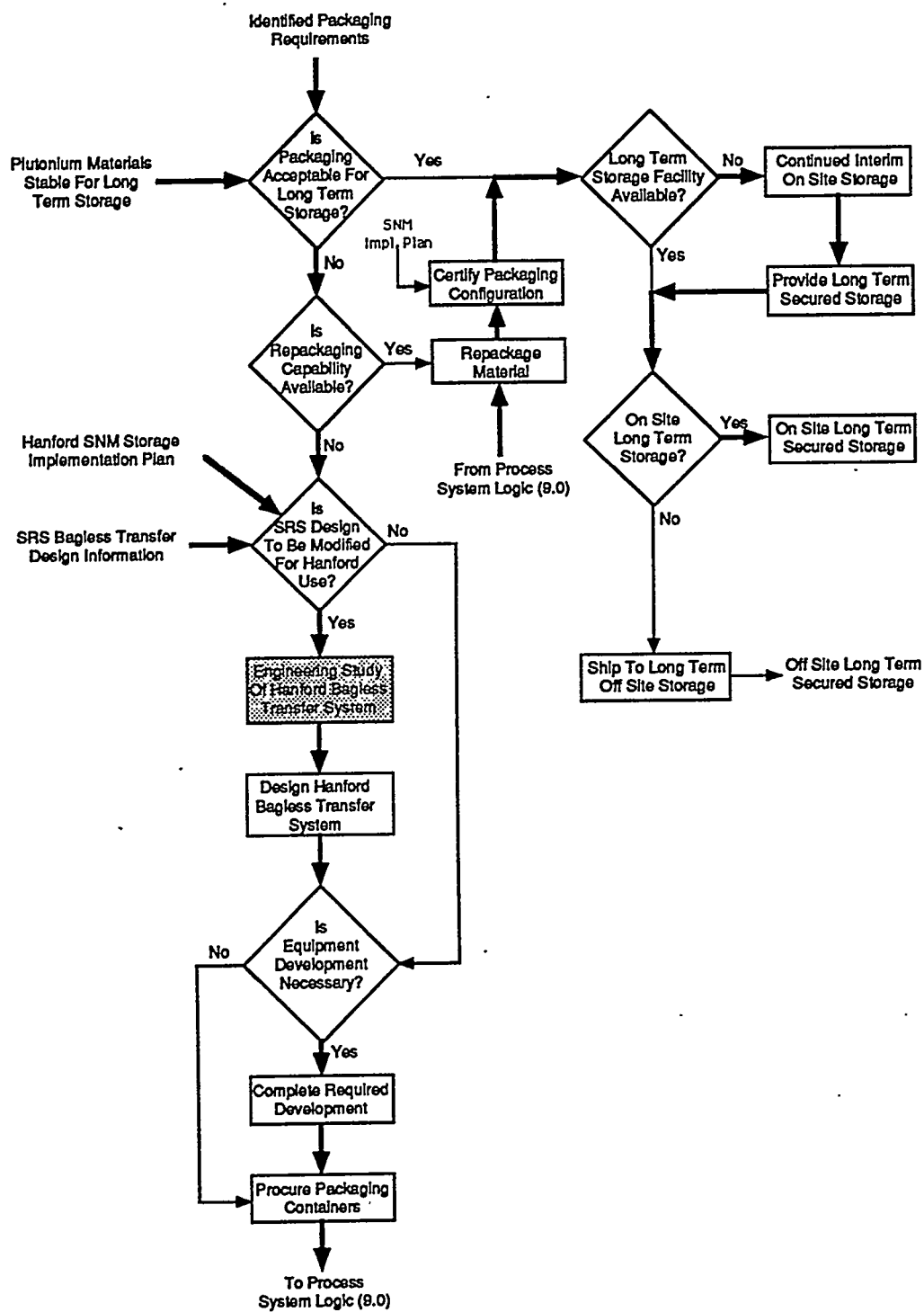
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DECISION LOGIC FOR MATERIALS <50 WT% PU ASSAY (6.0)



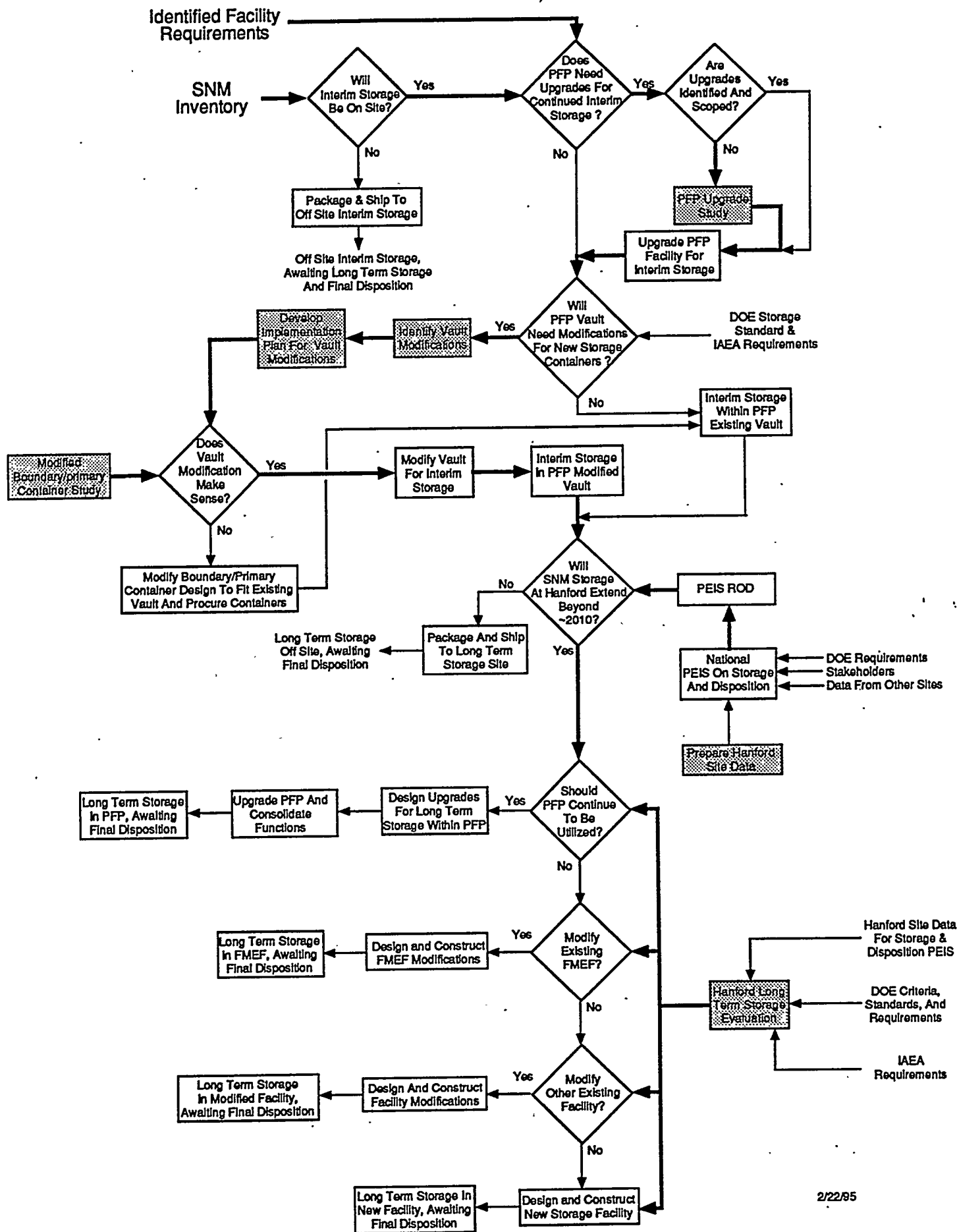
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PLUTONIUM MATERIAL REPACKAGING LOGIC (7.0)



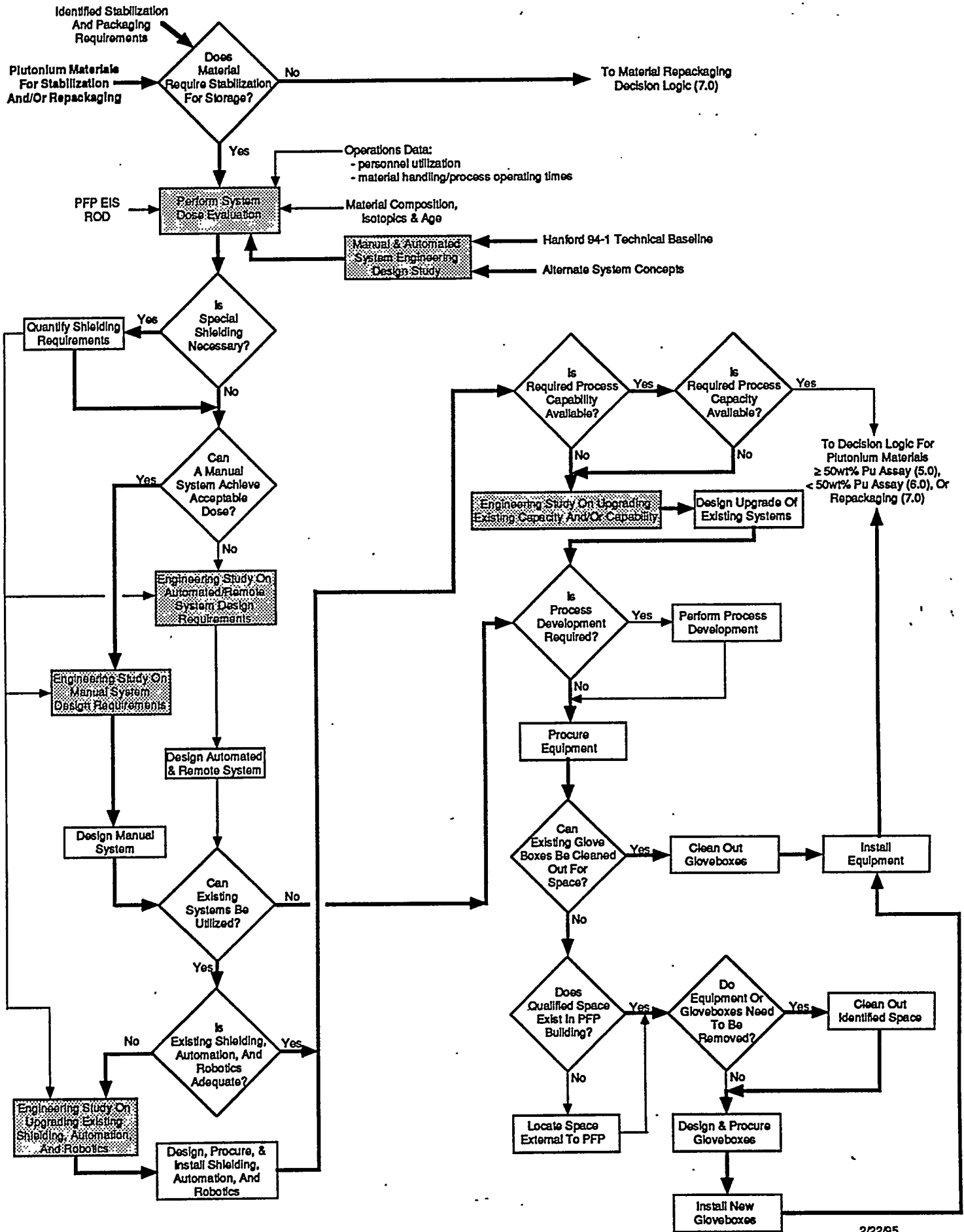
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FACILITY DECISION LOGIC (8.0)



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PROCESS SYSTEMS DECISION LOGIC (9.0)



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	S. L. Magnani	R3-85
	R. L. McCormack	R3-86

Westinghouse Hanford Company (cont'd)

M. J. Monthey	R3-86
A. N. Praga (10)	R3-86
J. M. Steffen	N1-47
E. C. Vogt	T5-50
J. C. Womack	R3-86
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