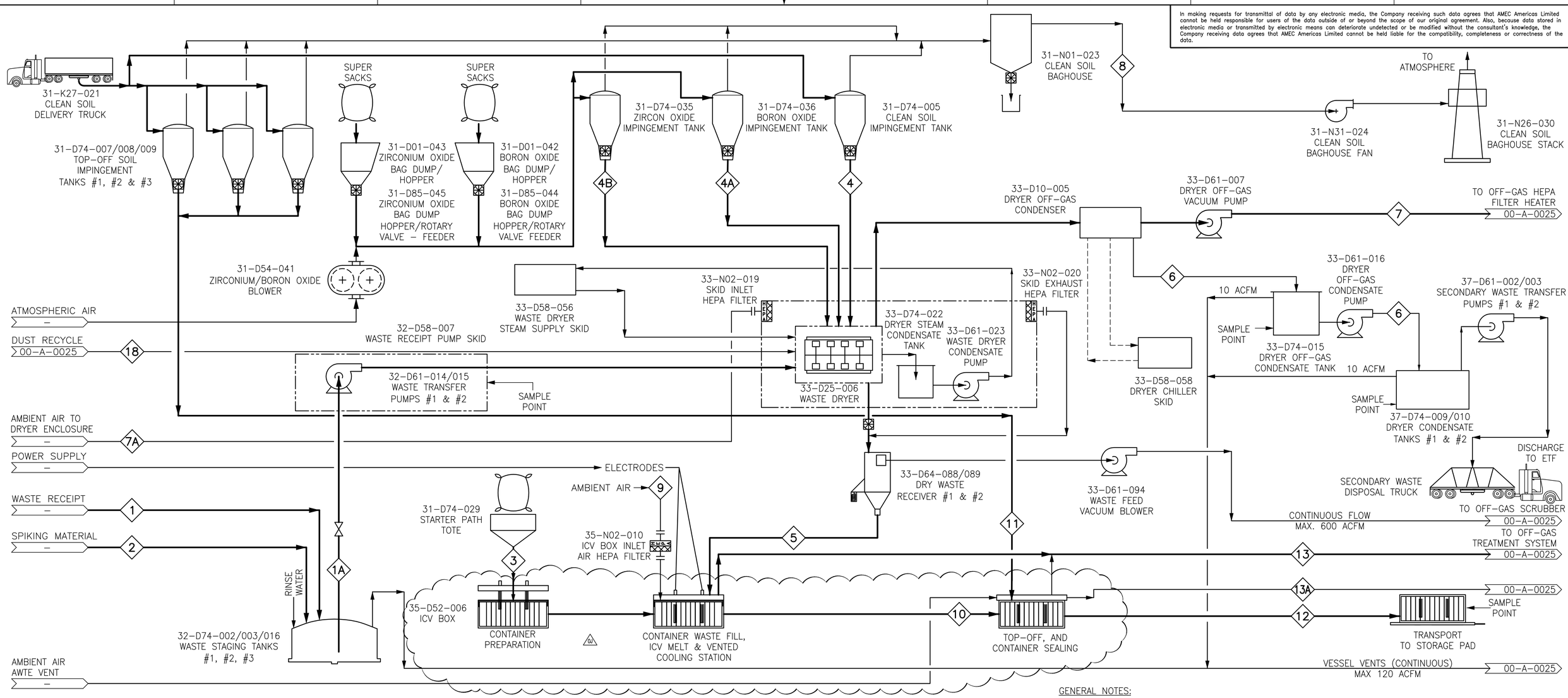
In making requests for transmittal of data by any electronic media, the Company receiving such data agrees that AMEC Americas Limited cannot be held responsible for users of the data outside of or beyond the scope of our original agreement. Also, because data stored in electronic media or transmitted by electronic means can deteriorate undetected or be modified without the consultant's knowledge, the Company receiving data agrees that AMEC Americas Limited cannot be held liable for the compatibility, completeness or correctness of the data.



GENERAL NOTES:

1. SINGLE TRAIN FACILITY THROUGHPUT: PROCESS FEED IS MODELLED BASED ON A DESIGN FEED OF 1.09 GPM. A TOTAL OPERATING EFFICIENCY OF 70 % SHOULD BE APPLIED TO ACHIEVE A 0.76 GPM PRODUCTION RATE WITH A 20.0 WT % Na2O GLASS LOADING IN THE GLASS PRODUCT.
2. FLOW IN STREAM 2 IS VARIABLE; A TESTING MATRIX WILL DETERMINE THE AMOUNT AND COMPOSITION OF SPIKING MATERIAL TO BE ADDED IN THE INDIVIDUAL TESTS.
3. VALVES ARE ONLY SHOWN TO INDICATE PROCESS INTENT.
4. FEED DATA BASED ON SECTIONS 3.1.2.1.1.1 AND 3.1.2.1.1.2 IN RPP-17403 REV 2.
5. RADIONUCLIDE CONTENT WAS BASED ON TABLE 3-3 IN SECTION 3.1.2.1.1.3 OF RPP-17403 REV 2.

LINES LEGEND:

- MAJOR PROCESS STREAM
- MINOR PROCESS STREAM
- INTERMITTENT FLOWS

STREAM No.		1	2	1A	3	4	4A	4B	5	6	7	7A	8	9	11	12	13	13A	18
STREAM NAME	UNITS	WASTE RECEIPT	SPIKING FLOW	WASTE FLOW	STARTER PATHS	SOIL	B2O3 ADDITION	ZrO2 ADDITION	ICV FEED	DRYER CONDENSATE	DRYER AIR	DRYER VENT AIR	OFF GAS AIR	ICV AIR	TOP UP SOIL	COOLED ICV PRODUCT	ICV OFF GAS	AWTE VENT AIR	DUST RECYCLE
PHASE		LIQUID	LIQUID	LIQUID	SOLID	SOLID	SOLID	SOLID	SOLID	LIQUID	GAS	GAS	GAS	GAS	SOLID	SOLID	GAS	GAS	SOLID
DESIGN VOLUME PER BLOCK	USG/ACF	13170		13170						11866	50918	7236000	2400000	962168	0	0	3382386	962168	0
DESIGN MASS PER BLOCK	lb	141371		141371	3300	66175	4687	6562	123356	96439	2657	515859	171097	70323	13315	93769	103209	70323	1004
SpG		1.29		1.29	2.32	2.40	1.51	5.70	2.09	0.98	0.0012	0.0011	0.0012	0.0012	2.40	2.65	0.0005	0.0012	2.54
SOLIDS BULK DENSITY							1.03	1.96											
PRESSURE	in. WG	n/a		n/a	n/a	n/a	n/a	n/a	n/a	n/a	-80.07	0	0	-2.24	n/a	n/a	-2.46	-2.6	n/a
TEMPERATURE	°F	82		82	77	77	77	77	83	122	212	77	77	77	77	122	875	77	572
H2O LIQUID	lb	94365		94365	83	3308	0	0	1234	96439							0		
H2O GAS	lb																1313		
FEED Na	lb	12581		12581	32	1300			14031							13916	149		149
SO2 GAS	ppmV																1231		
NOx GAS	ppmV																119238		
HCl GAS	ppmV																119		
137Cs	Ci	3.1E+02		3.1E+02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.1E+02	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	3.1E+02	3.1E+00	0.0E+00	3.1E+00
99Tc	Ci	2.4E+00		2.4E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.5E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	2.4E+00	1.2E-01	0.0E+00	1.2E-01
TRU	Ci	1.8E-01		1.8E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.8E-01	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	1.8E-01	1.8E-05	0.0E+00	1.8E-05
129I	Ci	4.5E-03		4.5E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.1E-03	4.1E-03	0.0E+00	0.0E+00	0.0E+00	0.0E+00	0.0E+00	4.1E-04	3.7E-03	0.0E+00	3.7E-03

Rev.	REVISION DESCRIPTION	Date	By	Chk'd	Approved Design Lead	Approved Proj Mgr
OJ	REMOVED PROPRIETARY BLOCK	05/10/05	JBM	JBM	PAG	PAG
OH	ISSUE FOR CH2 APPROVAL AND 90% REPORT	12 MAY 05	SB	TH	KN	TH
OG	ISSUED FOR CLIENT APPROVAL & 90% REPORT	24 MAR 05	RRB	RC	KN	TH
OF	ISSUED FOR CLIENT APPROVAL & 90% REPORT	15 MAR 05	SB	RC	KN	TH
OE	ISSUED FOR CLIENT APPROVAL & 90% REPORT	17 FEB 05	SB	LSG	KN	TH
OD	ISSUED FOR CLIENT APPROVAL & 90% REPORT	14 FEB 05	SB	LSG	KN	TH
OC	ISSUED FOR CLIENT APPROVAL & 90% REPORT	21 JAN 05	SB	LSG	KN	TH
OB	GENERAL REVISIONS, ISSUED FOR CLIENT COMMENT	16 DEC 04	SB	LSG	KN	TH
OA	GENERAL REVISIONS, ISSUED FOR INTERNAL REVIEW	25 NOV 04	SB	LSG	KN	TH
0	FOR CONSTRUCTION	20 AUG 04	SB	LSG	KN	TH
C	FORMERLY F-143643-00-A-0024, FOR APPROVAL	26 JULY 04	SB	LSG	KN	TH
B	FINAL ISSUE	14 APR 04	SG	LSG	KN	TH
A	ISSUED FOR CLIENT COMMENT	10 MAR 04	SLC		KN	TH

REV OJ OF SH DWG NO F-145579-00-A-0024

AMEC DRAWING NO: F-145579-00-A-0024 REV OJ

amec

AMEC PROJECT: 145579-FINAL DBVS DESIGN

NAME	DATE	COMPANY
DRAWN BY		
DESIGNED BY		
CHECKED BY		
DESIGN / AREA LEAD		
ENGINEERING MANAGER		
PROJECT MANAGER		
DESIGN AUTHORITY		

U.S. DEPARTMENT OF ENERGY
Office of River Protection

FULL DBVS
FEED PREPARATION & MELT
SINGLE BLOCK PFD

SIZE F | BLDG NO | INDEX NO | DWG NO | REV

SCALE NTS | EDT | SHEET | OF

DWG NO	TITLE
–	

DRAWING TRACEABILITY LIST

REF NUMBER	TITLE
–	

REFERENCES

NEXT USED ON

REV REL	MFD	REV NO	DESCRIPTION	REV BY DATE	REV BY	CHECKED BY	ENGR	COMPANY
		–						

REVISIONS