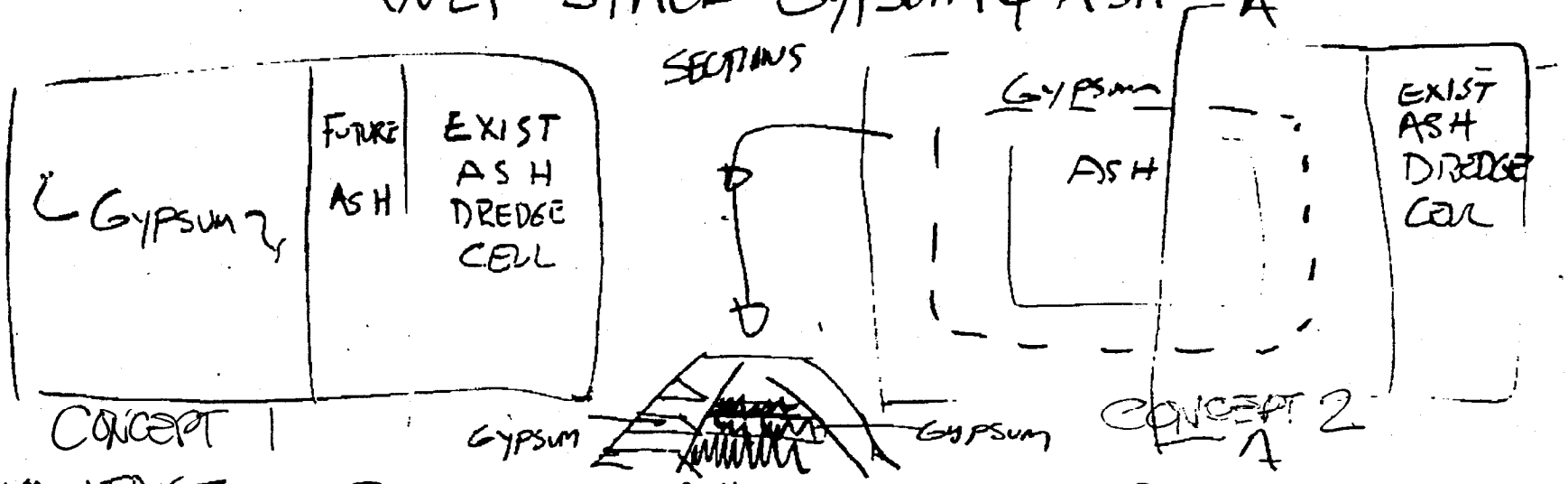
Name	ORG	tel / email
TED STAMMLER	TVA - ENG	6421
JIM HUBER	TVA Y&O OPS	3513-C
J S BAUGH	By Prod	
Richard Gipson	TVA - New Gen. Projects	751-3440 / regipson@tva.gov
CHERI MILLER	TVA BYPROD MARKETING	751-4419
MIKE SUTTON	"	751-3539
Tom Ingra	Ardaman & Associates	407-855-3860 tingra@ardaman.com
Anwar Wisa	" "	" " awisa@ardaman.com
Rodney K. Simmeth	Parsons E&C	6608552960 rodney.k.simmeth@parsons.com
DANIEL R SMITH	"	423-757-8088 Daniel.R.Smith@parsons.com
TVA phone Greg McNulty	"	513 552-7052
TOM WRIGHT	"	423 757-8089 (PM ONLY)
Amos Smith	TVA - Gen Aff	423-751-3522
LYNN PETTY	TVA - ENG	423-751-6704
Larry Bowers	TVA - EA	423-751-4947

WET STACK Gypsum & Ash



ADVANTAGES

1. RATE OF GYPSUM FLUCTUATES
2. ASH GENERATION MORE CONSTANT

DISADVANTAGES

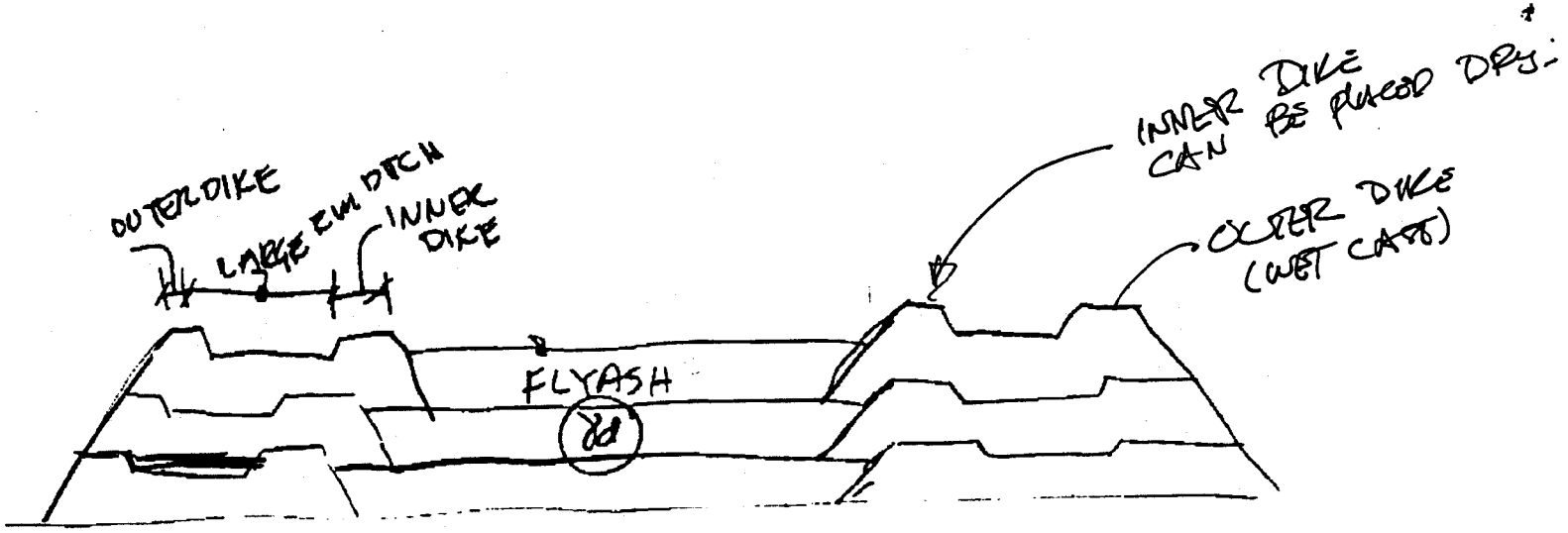
1. ONCE GYPSUM & ASH FOOTPRINT SET, CANNOT ADD MORE ASH, ONCE CELL IS FILLED MAY END UP WITH GYPSUM DISPOSAL CAPACITY & NO ASH CAPACITY

ADVANTAGES

1. MAXIMIZE USE OF AREA
2. PERIMETER DIKES NOT CAST GYPSUM (ASH DIKES HAVE TO BE COMPACTED)
3. Dry Gypsum can be easily used for inner perimeter dike
4. May be able to eliminate underdrain system in gypsum

DISADVANTAGES

1. CONFIGURATION IS DEPENDANT ON HAVING ENOUGH GYPSUM TO KEEP UP W/ ASH.
2. MORE DIKE LENGTH
3. INVESTIGATE CLOGGING IF LEACHATE STREAMS ARE MIXED.



CONCEPT 2

CONSENSUS -

1. WET CAST GYPSUM DIKES INSTEAD OF EARTHEN DIKES
2. FOR WET ASH/GYPSUM { COMBINING ASH SLUCING & GYPSUM SLUCING IS NOT DESIRABLE (i.e., MIXING TOGETHER PRIOR TO PLACEMENT.
3. MIXING DRY GYPSUM & DRY FLY ASH OK.
4. ONCE MIXED, NEITHER MATERIAL IS MARKETABLE.
5. MATERIALS WILL { CONSOLIDATE. DIFFERENTIALLY — THIS IS A DESIGN CONSIDERATION.
6. GYPSUM PRODUCTION (NEW FUEL PLAN) — DIHYDRATE (NO FREE WATER)

54 PCF { 182,000 TPY BRF (160,160 CY/YR) 181,940 CY @ 74 PCF 172,840 CY/YR @ 78 PCF ↓
{ 197,000 TPY KIF 1-5 (173,360 CY/YR) 187,080
{ 176,000 TPY KIF 6-9 (154,000 CY/YR) 166,190
Σ 487,520 CY/YR

7. FREE WATER VOLUME — MAY (OR MAY NOT) NEED ADD'L CAPACITY.
8. POND LOCATION IS VIABLE, Pending Confirmation of STABILITY.
9. FOR CO-DISPOSED ASH & GYPSUM — CLOGGING NEEDS TO BE INVESTIGATED.

COMPATIBILITY TESTS

CO-DISPOSAL OF WET (KIF) & DRY GYPSUM (BRI

ISSUES

1. EXTERIOR DIKES SHOULD BE WET CAST. (NO DRY GYPSUM)
2. TRUCK ACCESS.
3. INNER DIKE CAN BE CONSTRUCTED WITH DRY GYPSUM.
4. DRY GYPSUM CAN BE DUMPED
   DUMP ON ROAD & PUSH W/DOZER
5.

UNDERTRAIN. DESIGN

1. UNDERDRAIN FOR CONCEPT 1 REQ'D FOR AS-?
2. DRAIN MATERIALS SHOULD BE COMPATIBLE W/ LEACHATE STREAMS EITHER (OR) | CONCEPT 1

   CLOGGING CAN OCCUR IN BOTH CASES. (Both chemical & physical clogging).
3. CONCEPT 2 - STRENGTH (STABILITY) DERIVED FROM WET-CAST OUTER SHELL. MAY OR MAY NOT UNDERDRAIN SYSTEM DEPENDING CENTER PORTION OF GYPSUM/ASH. SLOPE DRAINS MUST BE PROPERLY INSTALLED IN OUTER DIKE DURING OPERATION IN ORDER TO PROVIDE ADEQUATE STABILITY.
4. Clogging Needs TO BE INVESTIGATED FOR UNDERTRAINS. (BOTH CONCEPTS)
5. SEISMIC STABILITY ANALYSIS REQUIRED FOR SOLID WASTE PERMIT.

UNDERDRAIN DESIGN

7. INSPECTIONS & PERFORMANCE MONITORING

USE OF PIEZOMETERS & OUTLET FLOW RATE MEASUREMENTS OF UNDERDRAIN SYSTEMS. (5 gal Bucket & STOPWATCH)

WET VS DRY GYPSUM DISPOSAL

TOPIC	WET	DRY
1. DEWATERING	NONE	REQUIRED (BELT FILTER COMMON.
2. TRANSPORT	HYDRAULIC - LOW OPERATING COST	CONVEYOR OR TRUCK. PLUS LOADING & SPREADING. HIGH MAINTENANCE.
3. SURFACE WATER RUNOFF.	SURGE POND.	NEED SURGE POND.
4. DUSTING.	MINIMAL - BUT DEPENDS ON WATER CONTENT.	NEED WATER TRUCK.
5. EARTHQUAKE	SIGNIFICANT DESIGN ISSUE. DUE TO HIGHER PHREATIC SURFACE.	LESS OF CONCERN.
6. FREE WATER VOLUME	REGULATED BY NPDES PERMIT/ SURGE POND TO MEET SOLID WASTE REQUIREMENTS. STORMWATER	STORMWATER, SURGE POND FOR SOLID WASTE PERMIT.
7. DENSITY	LOWER COMPARED TO DRY.	(LOWER WHEN DUMPED) HIGHER, WHEN COMPACTED IN THIN LIFTS.

WET VS DRY GYPSUM DISPOSAL

TOPIC	WET	DRY
7. HARVESTING.	REQUIRES 2 PONDS.	EASILY.