

USNRC

3-20-90

I-MOSBA

17

Exhibit

17

page

of 22

95 JUL 14 A9 33

I was on vacation: Unit 1 blackout - 4.42 hrs -

OFFICE OF SECRETARY
DOCKETING & SERVICE
BRANCH

3-26-90 CKM Staff -

(Sug)

- looking for additional smaller reduction work (42)
(Bergen Patterson)

- DG Testing (Burr)

- thermal training -

- A-D failure -

* - MEIV's striking on backing fluid vs. primary - check units -

- IIT - ECD Friday

- static blackout response -

- Fall Mgmt Forum (Soc.) - LAW & PDR -

NUCLEAR REGULATORY COMMISSION

50-424-OLA-3

50-425-OLA-3

Docket No.

Official Exh. No.

II-17

In the matter of

Sa. Power

Staff

IDENTIFIED

Applicant

RECEIVED

Intervenor

REJECTED

Contg Offr

Contractor

DATE

6-8-95

Other

Witness

WARD

Reporter

SW

9508110232 900320
PDR ADOCK 05000424
G PDR

3-27-90

INTERVENOR
EXH. #77
7-1994 CUL92 PROJECT
047982

USNRC

16896
 3-20-90 I-MOSBA 17 Exhibit 17 page 1 of 22

95 JUL 14 AM 9:33

I was on vacation: Unit 1 blackout - F. U. Z. trip -

OFFICE OF SECRETARY
 DOCKETING & SERVICE
 BRANCH

3-26-90 CKM Staff -

(Sug)
 - looking for additional smalls reduction work (62)
 (Borgin Peterson)

- DG Testing (Burn)

- thermal training -

- A-D failure -

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Exhibit _____, page _____ of _____

② - 100% ,

- Powder 'B' problem last night; sulfate spiked ≥ 20 ppb (Asst.),
back down to ~ 12 ppb now -

④ - CKM: get Buzz to get data & get to aware group 1-10 -

- HDP ~ 28 - may replace next week

① - 12 hrs. yest. (DG) (-60 hrs.)

- DG 1B: - problems with 2 JW T.S.

{ pneumatic - diff. cal. in?
shop the @ engine
(Calson?)

- LO TS leak 0-100g

- logic board tested sat. -

- ECD 2200

- PM's (cal, shelf life, etc.)
- inst. reliability?

- reactor vessel: upper canopy seal weld leak \rightarrow had
looked at lower, but missed upper

⁸²⁰
- Ken Burr: logic board replaced & tested OK; not calibrating mistake

correcting

- Cateba doing away with pneumatic system?

- Sang: canopy seal weld / GC? - who

- venturi runs readings

3-28-90

④ - 4a: ltr on 200° / RTD mapfile number = ?

② 100%, 1171 MW

- 'B' Powder tagged for maint.

- HDP 0.27 ips

④ - generator 'B' Phase bushing \rightarrow maybe had thermocouple \rightarrow 175°
found last evening \rightarrow infrared? ^{185° other}
_{115° other}

① - 12 hrs. yest. (-72 hrs)

- back one functional test on inst. air & airlock LLRT → ILRT, now

- DG 1B run (all suw. incl. 6 mo.) & paperwork being cleared →

there was some pos planning on DG testing (eg. 6 mo. vs. 1 mo.)

- turbine LA filled / turning gear this PM -

* - canopy seal repair → get copy of sequence from Lasky - ✓ 2/5/84

- rumor that Bartlett picket tomorrow AM → don't expect impact -

- 'A' DG test plan review with NRC 10-12 -

- 'B' RHR struts being installed -

* - get latest FNP section - To - service checklist - (sent to Ed Kormanik / disc. with Jim S.)

- 3055 (8:30 CST) → RHR section relief conference call -

3-29-90 Thurs.

② 100% , 1169 MW

- gen. loading of B this morn

① (42 hrs.) - 70 hrs. total

- start @ 45 poig (0930 started stabilization)

- 'B' Paudax → holding check valve spring (was broken → fixed)

- picket @ A1A (HP), none @ gates -

- DG 1A: start UV ~ 0930, then logie -

- turbine oil warning

- ECD MSIV's Friday on 5th.

- RHR 'B' running → struts in by Fri. → SCS with people back Fri.

Paul has had for flex lines

④ - DG sequencing (delete UV - Paul lead on expediting design etc)

- B survey cleanup
- RHR 'B'
- canopy seal

- 1A DG
- ch. vlv. testing
- tr. testing

Me
- AD Miller
- Pascoe

⑤ - pull RHR NPRDS data from other plate -

Fr 3/30/90 7:00 K. Burr -

- DG 1A logic test completed (no problem) -

- 3 TW TS switches cal. (all low) / 1A temp won't calibrate - pulling now -
~ 3 hrs.

- survey start & check for leaks -

- then multiple start & trips -

- the LOSS -

② - 100%, maybe HDP 2A start Sunday

① - ILRT = 0.087% / day / 1.5 psig

- canopy seal work / w.c. putting weld rod C.O. -> crit. path

⑥ - RHR 'B' starts done except tying in -> survey traps when

A' switchgear work completed & A' RHR run -> test early evening ->

call Tim that we will have to make decision

⑦ - CADM coil stack meggered low - (300 Ω) -> looking for coil shorts

get into PM program -> S. Shuk

4-2-90 Monday AM

③ 90%, 1020 MW

normal level cut. vlv. ^{pull?} low level - HDT

- 2A HDP - replacement : were changing a demineralizer (~20 min. I do
- in progress - would like opening - up to 104% when
- LC0: - 2B Cut. Rm. Emer. Filtration -> signal outage
- H&B HVAC - outage

- 2B Check H₂ Monitor - Cal.

- PORV

① - 78 hrs. /

- BA03 outage in progress

- canopy seal repair done / have to replace ordm & DRPI

coil stacks / ^{risers} / ~~risers~~ pressurized to 350 psig -
1/2 inch shield -

- predict Thrus. for Mode 4 (ops. activities) -

- RTD anal. cross-cal. done -

- IB RHR sm satisfactory → { 1 mil to 0.5 motor / ~3 @ bottom /
→ ~3 at shaft → will be- DG 1A: NRC concerned about JW ^{high temp} switch reliability →
& other instrumentation
- outg soon this morning -

- design change on low-voltage out 4 sec or less /

mech. trip portion before startup / electrical @ next outage -

- primary ENN → CKM wants to put on minutes -

- backup ENN → making aware same as primary ENN

- phones for both ENN's will be in GOSC & will be the
source for news releases → may add FAX

* - look @ need for spare RHR shaft

(Hork)

- have spare
one (plan only)

090° Harvey: push Wyle / L-L qual.

- Ken Burns

- NRC 1A DG review: 2nd trip due to JW TS →duplicated Set. (70 sec); 1st trip not sure, but think

now due to hot water in JW stack pipe

4-2-90 CKM Staff -

(1988 Part 21 in switches)

- Calson on-site with T.W. TS checkout - Burn

- Sam Shah on-site digging out relay cal. data to send Gs. Pres.

- Recount transmitter: have replaced 2 / few more would like to, but part mixup -

- 480 / DC lib problems -

- getting up DG inst. mode.

- IET exit team: - on way to WDC -

- Rego will make operability / vid: determination

- Cause of IET failure still issue

- overall focus on mid-loop - procedures need to be revised for long-term loss of cooling -

- met tower / ENN

- accessibility

- classification: should be site area -

- reliable electrical loop - need improvement?

* - call I&C depts. @ 13 sites about problems - David

* - push (Ping Su) on AD-smaller -

* - Unit ISI Plan by 4/15 → JAE?

* - do IET qtr. Perf. App. by 4/15 → get forms -

PPP

{ 178 > 12% (system) / (35 = 15%) / 7-8 = 0% / \$39M Total

{ 5.39% GPC, other 3 higher. -

- panel bkrs -

- DG mod. -

5581

4-3-90 Tues

② 90%, 1018 MW

- LCO's: PORV / IB Cont. Rm. Emer. Filt. / FHB HYAS

- 2A HDP work in progress on - schedule

① Mode 5 / (-90 hrs) [-12 hrs 'B' swaps - slower than at in.]

- 92° RCS / 150° P₂ - added Hydrazine for - no sample (power to valves)

- swap outage → most being cleared (check 2)

LCO's
- 3 subleak resolutions (PORV / FHB)

- start RCP's 1 & 3 this morning until get 'B' swaps → heating

- RTD bylaws day 4 (FE-437) sign. leakage → clean & torque /

or replace gaskets -

- RVLIS calibration - air inleakage into system → 10 on-site 0:30

- start cold rod drops

UGH: why did swap work hold up critical path? bulk of work?

Projects:

✓ - live-load packing qual. @ Wyle: Mark

✓ - bkr problems: David?

✓ - DB instrument survey: David

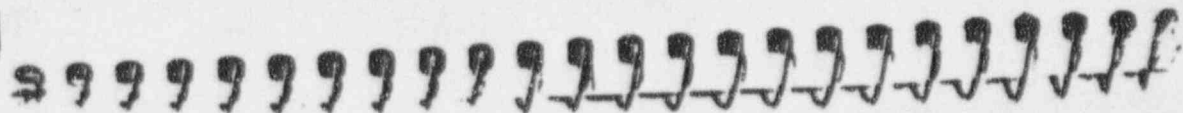
✓ - AD subleak resolution / other subleak - etc

✓ - U1 ISI plan by 4/15 to NRC? (Larry Wilson work, on pag. doc.)

- approvals - Mark

✓ - excess straight tie

✓ - RVLIS - 2mg



4-3-90

SAER Entrance (Ken Maje)

- interview each person on scope of responsibilities -
- Dunn - standby for Sen -
- conf. call with NRC on DG - want outline of what do with TS -
 - CO - see if working @ all
 - CU - check if data is
 - CR - check cal.

4-3-90

Mike Hobbs (PM)

- review PM Guide & commit back to Mike / Keny -
- find reference to reporting overdue PM's (+25%, etc.) -
- 20015-C: PM Change Request: use this for our review -
- Tom Monday: IEC form (PM) -

Jim Swartz 4-3-90

- Start RCP's soon -

- real drops: MATE problem on coil stack data

- RVLIS: 74-hr - evacuate sensing & hyd. lines

- 'B' swap energy except 2 lines (1700)

- FE437: gas heat mat. here today & work tonight -

- DG met. gone Mada 4 & J.W. testing

- Jim Swartz: why coast? ^{oil} economics -

4-4-90 Wed

② 90% 1021 NW

LCD - PORV's / IB CR Emer. Filt. (paperwork close this AM) / FHB WAC (today)

- 2A HDP sat → ECD run sample run tonight / RTS 9th

- 'B' Cond. polishing done → RTS today -

(-114) ③

① - 24 hrs to do DG mod. { do UV block of Non-acc. trips }
 + ② - 1W tests to test along theory - (w/28 hr test)

③ - ESFAS test exception to clear first exception (IB)

- running 2 RCP's (solid) 150° RCS & pgs → heating up to ~180°

to get chem. in spec. -

- rod P-12 (Data B only) problem → rod drops { M-12 due to cargo }
 - fried

- 'B' surge energized → close paperwork

✓ - RULES : evac. & refill - push design mod. out today

4-4-90 Wed

~~one looking at fault~~

Telecon K. Burr (~ 9 PM)

~~history on IADG~~- completed FT on logic^{bl.} + sensor recal. →* one sensor leaking^{slightly} OK'd to re-install

- started for trip logic test & got failure -

- put gauge on & poppl & OK (one tripped & one leaking)

- got 12 last Sat. & put 2 new to

- release locker & tripped one on (plus one new one failed)

- all 3 have been tested in place since then -

(3/11) cal. during O.H. (co-found on engine (hi))

TS H	19110, 19112, 19112
AF (210°)	210.4° 206.2
A.L. 202.9	205.1° 199.1

in-shop

orificed line / called tripped @ 20 PSI

in-owners Group matrix,
cylinder heads? but work has been
done -

Recal.

TS 19.110	A.F. 197°
	A.L. 197°

19111	A.F. 198.6
	A.L. "

19112	A.F. 186.2
(small leak)	A.L. 199.9

tripped during
test on unit
NRC

replaced

19111	A.L. 201.6
19112	AL 200.1

3/31

S.P.
200 ± 4

found hardly no difference in
bench vs. in place

- Surf. temps. at JW switches $\sim 154^{\circ}$

- lub oil HX water $\sim 170^{\circ}$

~~---~~ - JW cools L.O. HX \rightarrow

could produce slug -

(2nd
trip)

- 70 sec. is the delay on bypass of
trip logic

(1st
trip)

- 80 sec.?

/ K. Burr theory: took
a few more seconds
for hot water to reach sensors
(test tomorrow)

- over 2 rev.

- air roll mixes some water of JW

-(2 - 5 sec. rolls) within 4 hrs.) -

4-5-90 Thurs 1600

1A ~ 62°/74° dewpoint: restored → will blanda 5'
 resample
 Sample -

- rat drop testing: all rods moved / no drops yet -

- ops snow. 3 wo. classmate going good -

12403G4001K01, K02

1A 3/9

61°

66°

3/13

#1 48°

#2 45°

3/29 (4 wo 19001513 K01 80°, K02 60°

170 scfm air dryer /

4-6-90 Fri 0900 (-119 hr, -8 gals 1-1 - DG.)

① - 1A air ^{recovers} ~~dryer~~ still ~ 80°F dewpoint after feed & bleed / dryer

Capacity exceeded by compressor → looking if can sample dryer at that
 ~~not testing from 1A~~ (44)

- spray valve may be leaking (~ 2 days delay if we have to

go to valve → should know ~ 11)

RVLIS work still going well -

- Cold rods done except SD back-C 3 CB-C = wouldn't int (no problem found yet)
 (C11 connection)
 (C1 → this AM

- spray add tank NaOH DOS low. 29% (30-32) → have moved

valve that suspected leaking during syst FIV (fix next step)

- still heating gas (~ 5°/hr)

② - 90% 1011

- HDP 2A back in / have some setup on valve to do 5' line,
 then some power (~ 2000)

usually blow
 down
 1/2 day
 no
 1/2 day
 water

4-6-90 9:00 AM NRC Bridge (301-951-6090)

- Al Chaffee (301-951-492-7229)
- Ken Brockman Rick Kendall 492-7318
- Region II

④ - temperature switch: L.A.W. lead -

- documents wanted by NRC:

- counsel info (Greenwood)

- thermocouple info ^{location}

- (later next wk) condition of electrical dist. system vs.

risk vs. this

- NUREG 1410 for reference -

- pull people what air start pressure was during event -

Woods (NRC)

- 1809: wants to talk to people who write RHR procedure re: info

(wrote to indicated procedure "fail")

- (Rick - NRC):
 - notes on conf. room board
 - notes given to them
 - 4/8 note from Briny (NRC) (most acc.)
 - telefax re: instrument
 - lots of conf. notes / NRC
- will send matrix to GB (Mark Briny) to provide historical summary on instruments -

(GB)

- dewpoint: evidence points to bad dewpoint sensor instrument (h)

- maint. trying to buy new instrument (1B also tests bad), will confer with Cooper that ~~there~~ short term problem with dewpoint as

dewpoint test → NRC will convene with R2 on their feelings -

(Rick NRC): Catauba has roof dryer (I told them that Catauba had problem to dessicant dryer) -

- Supplement to 5-22 Part → GB sent to NRC -

- status of JW test: (Burr) JW not varied more than $\sim 1.5^\circ$,
 include oil temp (~ 30 min cycle), JW (155-165 when LO
 heater cycle (ktr on 30 min), off (50 min) \rightarrow (LO in & LO out)
 (JW inlet temp follows LO temp)
 - JW ktr has been on almost continuously (! off)
- ~~following~~
- how repeatable: several (moisture / rate of temp. chg)

4-6-90 15:45
 Ken Burr

- temp went down $7\frac{1}{2}^\circ$ when engine started
- 1900 - Harvey: dewpoints $\sim 20^\circ$ & 40° on U1 with new unit.
- pzo spray valve: Fischer thick seat (plate) has popped loose / ~~Temp~~ ~~probe~~

4-7-90 Sat 0730

② 90%,

- HDP 2A in service & feeding formal \rightarrow (level cat. valve condition IFC work / PM to resolve)
- 5A level cat & dump fried
 (Pump -
 bearing -
 damaged)

LC's - P & RV

- PASS 8220 looking & LLRT \rightarrow (ECD today) - isolate
 (before 235 spray & RHR check valve work.)

① - 168 hrs. (due to addition of spray & valve)

- { #1 spray 455C (25% - 50% \rightarrow very little flow) ~~more due to~~ ~~also~~ ~~did not~~ ~~go into~~
- { #4 spray 455B (won't fully close)

- DG-1A testing: UV test \rightarrow funct. on DCR \rightarrow zero. test \rightarrow funct. test
 (without prior air rule)
- call paul to FAX ltr to G. B. (done ~10)
- RV LIS: cal. today (ECD today) \rightarrow filed

- Investigate*
- RHR 'A' shut pump section check valve (12.2) → *unre*
 - *might* torquing last week to stop leaking → have to drain RHR 'A' tank
 - spurious closure of VCT outlet valve to chg. pump (~5 min)
 - *what to do to save money* big. got to ~170° ('A' pump running) → *found investigate*
 - Shift Supt. : *bad decision* -- { *page 110*
 (Dunn)
 - 150°-170° RCS
 - did not use PORV's
 - not RCP's running
 - tried to cool RCS
 - *380° → 110° (I. Greenwood) **
vapor space ~430°
could have possibly extended ~300° on surge line

- *Armenia* monitor (3 channels not working)

- 88% (calc. cal.) , 425° vap. space , RCS @ 120° → [use PORV to go solid]
 180° liq. space

→ Ken Brockman - call him @ home if not on

✓ *conference call this morning re: DG status*
 ④ - WGH → CKM call Brockman -

⑤ - *raise temp. in RCS* → WGH

4/7/90 10:00
 - Rick Kendall (NRC) (he called me) → *similar testing* effects of handling of
 switch & installing/removing from wall (set screws/air line/etc.)
suggest verifying
 - *rise* supply pressure effect : T.M. says 0.3°/psig (*surge ST* in 60, etc.)
suggest
 - *drop test* : what effect dropping ~2' → I told Kendall
 I don't see part of it

WBS : FNP needs a relay : RCP 4F
 DEM 6-*per*
 - 5573

Static Release
 GE Model 125FF31A1A

(J.S. will) : Bonnie Barclay

4-7-90 Sat. 900 (NRC Bridge: 301-951-6090)

- Al Chaffee -

- Ken Burr: 1A - JW temp $163^{\circ} \rightarrow 155\frac{1}{2}^{\circ}$ (~40 sec. ramp) NRCW units
JW TCU
 stayed around that temp. during subsequent starts (few degrees).

- intermittent problem with 2 TS sensors - G.B.

- IIT would like to see if on quarantined switches by H2

- Cooper Rep.: Shutter

9 Monday / 10 - thereafter -

George
3118

4-7 Hackman: - Posture logs seen:

1100

Rajni

(can by
arrow)Jim BileCR logs: 340° (RCS -Per. Strm. Staging Control $420^{\circ} - 430^{\circ}$

(313° surge due to DT-max. \rightarrow commitment to
 NRC in analysis is $< 320^{\circ}$ on colden)

- John
Dudoe (w - Florida Group)

- Dave Kitch: (w expert)

(5573)

- all RCP's off - ~~open~~ - 420

- ~~1000~~ - RCS ~ 160, pressure ↑, stop chg.

- were going to cool pgs by raising & lowering pgs level

- decided better to use 160° RCS (vs. 160°)

- lig. dropped 380 → 110° (in < 1 hr.)

called Swartz

Pys ~ 230°

{ cooling down pgs

- now solid (by PORV) - RCS ~ 120° - RCP #4

- don't think we had > 300° surge in temp;

Chs - Mark Hickok / Maint. Emgr.

✓ - (3085) 2 PM / 1 PM - Conf. Call -

- Bill Brannister (9286)

#9 1 PM C/CALL

- 1B Chg Pump

{ (Mark Hickok / Dave Garlington)

{ (Barrie Bradley / Jim Swartz / Bill Brannister)

{ (Kurt Hackman / Dave Kitch w)

- (112 B/C VCT outlets closed) → troubleshooting cause -

- ran ~ 6 minutes / normal mini-flow was open & in operation -
(then seal water Hx)

- max. brg. temps. was 169° / maint. doing vib. & oil sample

- if brg. temps. OK / dish. pressure OK / no seal leak

- 10/15 gpm will get thermal overheating / 60 gpm ^{mini-flow} loop -

Mike Success (Pacific - Serv. Mgr.)

{ Run Quarterly Serv. + Visual

looks OK

{ W contact Pacific Monday

4-7-90 Sat 4:30 PM Security.

① RCP #4 running / RCS ~120, Pgr ~180° ± 4-5 hrs to depress.

- 110° in pgr & RCS : start draining soon (end mid.)

- RVLIS : cal. complete & saving shift

- Chg. Pump 1B IST. in progress - no prob.

- pgr transit final result Mon / no problem seen

~~W240~~

② (42) HD 2A HLCV working (isolated); will restore to service & ramp up after shift change.

991-8188

936-2712

47 1812

WGH : ask CKM if NRC knows about pgr cooldown last night

0700

4-8-90 Sunday

② 100% 1168 MWE

u.12 / CC.23

LCO: PORV, PASS valve (LRT today), seismic monitor {SP report T-day}

① (-200 hrs), GB experts

- drained down & working both spray valves 455 B7C -

- RHR check vlr comp. (good)

- 1B Chg. pump (IST) → pump looks good : recorder on signals / still in investigation to de(PT) -

- RVLIS hydro today -

- GB will talk to Starkey

- Mode 4 Times (1200) / Mode 3 Wed / chit. Fri. (2200)

- VCS sensor & backing mist. (on dampers / 200's) (were having mis. wrong)

VCS

1A 40,42

1B 45,46

216 34,03

216 46,46

- WBS will have ^{CKM} ~~the~~ on deck tomorrow AM -

CKM 1:30 WBS 1:50 PDR 1:50

4-9-90 Mon

② 10070, 1175 MW

- LCD: PORV / PASS ULV (-8220 LLRT in progress) / seismic monitor (Trend) /

(-200 in)

① Mode 5, TAV = 75°

- both spray valves together, 455 C (loop 4) → ball val. was put in
180° backward → re-installing actuators (replaced ball) (cond. problem) ECD-PA

455 B: actuator was installed 180° (not worked this outage)
inspect U2 during outage & write procedure

- F3 V // with actuator installation, → Chemistry

- RVLIS cal. complete -

- RHR 'A' F3 V cal. complete -

- 112 B, C troubleshooting → no problem (have recorder)

- out star to warm secondary -

LCD seismic / pps transient / COPE 120 (should close by RVLIS)

- RER sec. team entrance @ 2:30 today

4-9-90 NRC Bridge

- Al Chaffee + team

- Rick Kendall

- Harvey Weikoff

- Skir / Paul Kochery / Harb Beecher

- dump all acceptables except #2 on DG 2A (60.9°) (down)

- Al Chaffee requested table of dump results on U1 for hot ex
d users -

- Mike Jones: requested desc of event data recording sys. (Antenna/WWF) \neq how it contributed to understanding the problem - Skip
- anything that describes ENN \neq backing ENN? ^{NRC} write info - Skip
- procedure writers for loss of RHR \rightarrow 1-4 (Harb. Beaches) ^{Tues.}
- work on switch test plan (LAW) - early part of week
- 10 AM call tomorrow

WBS
4-9

- SG summary on good? \rightarrow talk to H.H.
- final reports on EC & Thiller - check
- replace storage on RF machine
- following proc on spray valve maint. \rightarrow skip omitted

4-9-90 SAER Audit Exit

- no compliance or contact -
- discussed group utilization & interfaces -

4-9-90 NEL/NMS Weekly Design Chg. Mtg.

89-291: Ext. Steam Check Vlvs. \rightarrow Turner to get PCR

need
wz
packages,
w/r's,
etc.

- : RULIS - Sang
- : L-L packing - Gano
- : SG FP ch. vls. - Turner
- : DG machs. - Burr
- : Fischer \rightarrow Sang (Part 21)
- FH machine - Bush

4-10-90 Tues 7:00

② 100% 1163 MWC

- LCO: PORV

(-220 hr) - - - - -

① - 455C reassembled again / RSS filed → draw bubble today = (2300)

- Mode 4 (10A); 3 (12th 2000) ; Mode 2 (0800, 4/15); online 12th

- need crimping tool for rod K-910 =

- doing mode. to latchdown isolation valves (unified)

- security RER in progress

- when doing drain, had a leak spot on our sightglass;

just about 20% cold cal. pyr level; had bubble in tube,

note in operator log said "may have been '124'" →

Swartz talking to resident

Paul

- pressurizer cooldown problem: make Business Plan issue -

4-10-90 (0900) NRC Bridge (301-951-6090)

- Al Chaffee / Rick Kendall / Harvey Winkoff - { Gorman Wight
Warren Thayer }

- Harb Beecher (VEGP) / Brockman (NRC II)

* - IIT needs for documentation (concerned not getting what used ASD)

: history of sensors on DG (chart was given to pft. Thurs. or Fri.) →

J. Auf. (ECD FAX Wed AM)

: DG starts & stops (since start of outage to today → Paul Kish)

Ken Stokes to call Rick Kendall

: DG alarm & trip setpoints: conflicts between trains/dumps/etc. →

J. Auf. pushing

: copies of videos of DG starts → J. Auf. (rapidly)

: matrix of air start pressures from people → J. Auf. has

names of 5 people to talk to → J. Auf. to Warren

: { RCS volume, accurm. level, etc., etc. } Warren list /

: { covered during

J. Aufad. 1 PM
Warren & Mark

: cont. ckt. schematics for DG output lines,

+ 2-480 swag. SL + JW P&ID's → Herb Beecher sending

: Procedures for TS DG 1A → "Completed" procedures & data -

: copy of MWO for fuel rack shortening (on 3/23) and
alarm system (on 3/22) -

: explosion potential: memo from Cliff Miller →

analysis of explosion & fire capability { doesn't give
the actual results for the actual Event (Event II) }

(Cliff Miller / Gorman West) (951-6034)
(301-498-8802)

IIT { Al Chaffee - 492-7229 Warren Dye - 6022
Bill Legarm - 951-6022 Gene Tompkins - 6034
Kendall Wyckoff - 492-7318 Chaeia - 951-6020 }

- Herb Beecher: transmittal box ~~the~~ today will
contain list of what has not been sent → plan
everything by end of week -

- test sequence by tomorrow morning on new switches -

- 10 AM tomorrow

- J. Auf. other calculations / Cliff -

4-10 10:00

Exhibit _____, page _____ of _____

Harvey H. - spray vlv: / Dusty Adams -

- sent tech. rep. home because he } Frieda (Orli Khikfin)
said he didn't know much about vlv. } Engr. of J. Van der Kamp

- 'B' vlv: nothing wrong / ball in contact / drive shaft 180° out →
no effect -

- NNT did work on 'C' vlv -

4-11-90 Wed 0700

② 100%, 1158 MW LCO PORV

① (-220 hrs). (still have to stroke spray vlv) [delayed by setting out] C
- stroke B & C unit [actuators] check US safety

- RCS 180°, pgs 300° & solid → stroke sprays → draw bubbles → Mode 4
{ clean out }

- vacuum / TG

- ple to look with RER's open (for RTD error - cal temp control)

- RER going well: 1 microwave being fixed /

4-12-90 Wed NRC Bridge (DG IIT)

- Al Chaffee / Rick Kendall

- telecopy switch test to NRC & Wyle this AM - KB -

- JA: Telecopy switch history (13) to NRC this morning -

- JA: video & another box of data Fed Ex today - (alarm setpoint, video)

- JA: Swartz has interviewed operators of pressure → call NRC AM -

- KB: 2 MW's - alarms & shaft interference → talk to Ray Howard →

NRC will call Burr with specifics -

- AC: had telecon on RHR proc., etc.,

- disc or belt?

- how close to edge?

terrazzo

- size?

(stones: 18-24" swath)

- cost?

{ \$42/day & stones \$35 (bug)

- delivery & pickup?

{ Wilson Equip. 252-4000
3500 10th Av N }U1 ISI Prog. letter — where are site concerns?4/11/90 4:00 PM — Rick Karball (NRC) —

- called about T.S. test outline — we answered question

4-12-90 Thurs 0900

② 100%, 1169 MW

LSO PORV, REO1B — hi background (log. rad rate) → talk to FNP about

* hi background is determined —

① Mode 4 (330°, 450 psig) < -1752 yesterday >

- pressure inc. valve leak testing / RTD cross-cal / few MW's /
letdown out for vlv. testing

- Mode 3 (2100), Mode 2 (48 hr later), valve 4/18 (2400)

* - < see if we do preb. check vlv leak testing during SD >

4-12-90 Thursday (NRC Bridge 301-951-6090)

- Al Chaffee / John Auf. / Reg. II

- F.O. arrive & hour work (H. Beecher)

- do-run test results (K. Stokes / P. Kochary) → telecopy to NRC -

- Al Chaffee / Rick / Gorman on-site Tues & Wed AM to
review other data & look @ some other mic. stuff -

- cal. history of TS: some confusion - NRC contact Briggs /
if problem Chaffee → Aufda Kap -

④ - on switch testing: let Brockman & Chaffee know Wyle sch. -
- (Ken Brockman ^{telecopy} 331-4449) → telecopy to Brockman
(note that army has interested in clearing) / or NRR -
- they would like us to test ASAP -

- procedure for testing even FO feature (mail out presp today)

4/12/90 ¹⁰ Dan Smith (Wyle)

- 35 clock hours per switch / can test in parallel
#20K-#25K

- need 3 thermocouples /

- if P.O. tomorrow could start Tues or Wed

- vibration / get plant data -

- will comit to start test Wed (if have P.O. Fri & spanning Mon)

4/12/90 ^{~14:30} - Ken Brockman : { 404-331-6299 } Wed. (4/18), ~4 days

^{~14:40} - Al Chaffee : { 301-492-7229 } → message given to H. Wyke
for Al Chaffee

4/13/90 0900 NRC Bridge (301-951-6090)

- NRC - Mike Waterman ^(K, NRR) (will be witnessing test @ Wyle)

- Al Chaffee / Mike Gorman - on-site Tues 0730 / entrance @ 9 -

- want to interview "Operating Experience" people Tues @ 16 -

- don't have "do-run" test results for DG 1A -

- torsional test: do walkdown & dryrun 1700 today -

- LCO's: N41 005 (react. computer) & loop 1 Trv. -

- MS die #1 Rad. Mon. (comm, failure)

- REIT: dami flush valve won't isolate

- seismic

- throttle pressure limiter - problem on turbine -

- leaks in stat: hi press, chg. b-b (torque), RCS sample vlv. (after needs vlv.)

- ERF computer reliability problems (data concentrator) - Roden, Floyd
(Paw. Ga. Sonetics)

④ IS Program → call John Auf.

4/16/90 ^{8:50} Monday: Flavie Johnson (Dept. Mng. - test)

Joey Hendley → will talk to Flavie & expedite -

4/16/90: NRC Bridge (301-951-6090)

- Bill Gargano (NRC- IIT) / John Auf. / Rick Olan

- John Auf. -

- no other comments on test from IIT -

4/16/90 Wyle (Don Smith): - problems with temp. ranges -

- sensors (Wyle doesn't have yet), + engine (.028)

4-16-90 13:00

- Ed Patrosky (w) - discussed pyr safety valve testing & ltr to FNP (ALA-90-595); he tried to lay out ltr to their ES & procedure to not find any code violation with their test method (water); however, he thinks the right way is with steam (he thinks some of the 4-8% WTC difference may be due to inability to detect steam movement @ fraction of mil lift, when valve may start passing some water -

4-16-90 (CKM Staff Mtg.)

- long term corrective action for 3/20 event due 5/13 -
- ④ - Vision statement: get one person to review & commit to W35 -
- ⑤ - 105M budget Fri: 10 → Kickoff -

4-17-90 <ITT @ site>

- NRC thinks all JW TS (u) replaced in Oct-Nov 88 outage -
- questioned DC's written during TRI & DG sensors -

4-17/4-18 Site

⑦ - CKM: hear about "generic" I&C procedures → brief him

- KB: list of 44 ~~Portia~~ Rosemonts to site with partial Ser.#- Harvey: ① fire protection reduction (he sent me memo):
some inaccessible detectors / monthly ~~better~~ weighing/lifts② l-h packing: get Dean's list & make sure we're
working the correct values that Harvey wants

⑧ ③ LOSP critiquin - give dates to HMM by Fri 4/20

④ talk to my staff (D.P.) about casual comets on
how easy job at B'ham is -

⑤ is it possible to reduce number of fire doors?

⑥ talk to Cliff about DCR mtg. next week or two to
finalize 2RI list

⑦ talk to Cliff about internal rating of R&A's

⑧ mtg mgs mtg = talk to people about mgs

⑨ NR Stamp: Jim Rollins @ Hartford - Billy Baker will
bring him in under Hartford P.O. to review our program &
draft document ("QA manual" or "Adm Proc.") that would be
req'd to get Board Cert. → I will review advantages with
him separately⑩ Core marking 37%, Chico 77% marking → look @ GE contract -
write up schedule for 2RI tech & contract

⑪ WBS → S.K. & T.G. both desire visit to B'ham

⑫ talk to Lacey about PM prioritization into work
schedule (do 1:1, etc. with corrective maint) -

4-19-90 Thurs

② 100%, 1160 MW

- LCO: PORV

- normal DG 2A surr. today

① 11%,

- LCO: RE 13120 (St. line ^{today} - logic bld) / RE 18 / 2 SG Safeties gagged /
 { 3001 - gagged still the
 3021 - gagged - stopped
 Outlet O₂ meter (secondary)

- turbine / extn. drain valves all working → thermal binding felt to be coming during morning (there were MWO's @ lagging stage - Antiphase)

- react turbine → got trip { operator cover rel. sequence / resetting trips } -
 procedure for terminal test

- CVI's 1, 2, 3 opened only 70%; then 4, 5, 6 stayed shut → op. tripped

(opening lines were wrong → not marked this stage "drift") -

- next: roll up to 1800 rpm, then coast down for terminal test -

- IB feed pump OS test done → gasbust leak fixed -

- SI check vlv '025' leak stopped (needle vlv torqued) -

- Bank 'E' rods (rod clump) → variety to loose connections, cards, etc.

- DG 1B: during sequence test, got DG blocks high, depressed test button & DG 1G started anyway (K610 - quarterly surr.)

4-19: Ed Anselin - disarmed Rick M^cConnell (Ed brought him in for 24-hr. SU coverage & general sch. of people on T+M says 1 person per HWH → he's not there for terminal test - I told HWH he needed to be paid under SU contract & let him go when no longer needed)

4-20-90

DG Mols. - U2 → design at today / due 4/30

② 100%, 1161 MW

- fix GB FW bfr leaks → proposed Monday -

① 1190

LC0's: RE 13120 (31. hr - board) ^{PS?}; RE 18 (ECD today); MS Safet ^{{ 2001 - still 1 hr / 30 min } 2002 - 24 hr gapped / 1 hr}outlet O₂ cell replaced (in lumin)

{ torsional test activities complete → restoring mode then sync;

preliminary results are outside the ± 2 Hz window →overspeed trip test already done (≈ 1525 rpm)

ECD 1800 on-line

④ - inadvertent DG ^{IB} start → must be in test chkt;

still figuring → get Ka to talk to Dan bfr -

⑤ - SD 'E' ^{dropped} not meet. : several loose connections & cards →

J. Greenwood working with W on recommendations

conclusion of crit. team is that we may not

have had procedural guidance, but not T.S. viol. -

- P-006 ltr

- Gtely revised

- call Tai / Katy on next call.

- Crosby (Hess)

- letter to Norway on DG TS

- 10 budget (@ Hess / 10)

4-20

Junior 0900

- closest peaks @ 186.3 rpm (-124.2 Hz) & 177.1 rpm (-118.0 Hz)

- 0.3% - once @ -192.3 (interrupted torsional test); -192.5/192.5

- started testing ~5 PM Thurs

- #7 log @ 7 mile -

0918 Star Factor (GE field)

Act.	Pred.
124.2	126
	120.2
	118.6
117.9	116.8

- could not excite @ 7 1/2% I₂ level -

- has been run thru turbine engg. / not surprised we didn't find out

(John Kahlbackus - 11yr. Turb. Engr.)

- if the 2 missing modes didn't respond to 7 1/2% I₂, we

probably don't have any concern -

- Sch. analysis equip. much more sensitive than field -

- should have prod. report w/1. week / find ~6 who -

0900

4-24-90 Tues - Ken Burns / Milt Whit / Mike Watson - NRC

(A) - as-found : $\left\{ \begin{array}{l} \text{#0} \\ 204.1 / 206 \\ 203.2 / 192.3 \end{array} \right\}$ - (vender literature wrong) }
 $\left\{ \begin{array}{l} \text{#1} \\ 204.1 / 207.1 \\ 201.4 / 200.7 \end{array} \right\}$ } an switches (A 3500) }

(B) - inspection : one spacer lag loose / one had lock tight #6 }
 $\left\{ \begin{array}{l} \text{#0} \\ 204.1 / 205.1 \\ 204.0 / 202.9 \end{array} \right\}$ } 1°/mi from 180° }
 $\left\{ \begin{array}{l} \text{#1} \\ 204.1 / 207.1 \\ 201.4 / 200.7 \end{array} \right\}$ } 1°/15 mi. from 200° }

(C) - calibrated @ 1°/min $\left\{ \begin{array}{l} \text{#0} \\ 192.5 / 199.9 \\ 198.6 / 200.2 \end{array} \right\}$ } 1°/mi head }
 $\left\{ \begin{array}{l} \text{#1} \\ 196.5 / 199.7 \end{array} \right\}$ } (calibrated to 180°)

at cell - want to release temp. switches @ Wyle

- heard to Cooper

- Mike Watson will call Chaffee later today -

0900
4-24-90 NRC Bridge (301-951-6090)

{ Ken Brockman / Madi Shalomi / Milt Hunt / Ken Buser / Al Chaffee -
Rick Kendall

- they are tracking Lacey + Cheesnut into fault of DO + Cont. Bldg. Saver

- corp. photographs: anything on file in that? Madi Shalomi
(SW + 10 frame sensors) + quarantined sensors (none)

- sensor history: in mail today - Madi / also package to Wyle

- look @ time frame for when incense TC was available - Madi

- status of consensus calculations: Cliff? → get back to NRC

- that integrity on 3/20: NRC wants copy of info LCO sheets on

open that penetration - Greg Lee

Tuesday

	#0	#1
(C)	198.2	198.9
R	195.8	192.4

} after overnight soak

* - package T.S. (quarantined) & ship to Wyle ASAP -

{ bubble pack individually (with tags) + serial #'s

{ Al Chaffee agreed we could ship T.S.'s to Wyle

- logic board ^(1B) - leave in I&C shop (don't think there was a poll)

- low L.O. (that failed) - leave it open on who or what to do →

since pre-part 21 switch / moisture? → agreed with Cooper

- doing, but want NRC + no hang-in on what is appropriate
to test -

- P-3: no problem (came off 1B) - but may want to be included

- part of test inv. of low L.O. P3

NRC
 { they found a 1989 DC that we had a 1A DG in JW }
 temp. trip & operator tripped the DG DC (NSC) 1-89-1314 isolated
 1-89-1317 1-88-07746 (Ann. W.O. on JW) out of col. / in ITC shop

- Medi have someone look into it -

- DC's & WO → copies to Milt Hunt → Medi send copy to Milt

(telecopy to Wife)

- Warren Lyon has ^{Calc.} consens. to NRC today

	#0	#1	
Q-100 (D) out of well	190.2	198.8	(bath temp. by direct insert TC)
(E) in well	186.3 R 181.6	185.2 R 179.7	(well TC (dir. insert))

- 0.028" orifices ⇒ need some from plant

	#0	#1	
(F) in well	187.1 R 182.5	196.8 R 187.2	(after soaking @ 150° in well 30 min.)
(G) inspected #0	→ torque tube had turned 1/16"		
(calculated 7.6° setpoint chg.) → tightened (also didn't have socket file)			
(H) out of well	186.5 R 184.5	186.6 (hot well) 190.4 (bath) R 184.8	

(I) in well 187.4 184.6

(J) out of well 185.5 185.9

- presently setting to 200°; then do static tests -

4-25-90 Wed

0635 - 1 hr Red Phase : Emrg. safe left open with Sec. Pla -

① 84%, 910 MW

- incase - excase : have new values to reset NI's (8-10 hrs),
then increase to 100% -

- 3001 (176° on flange), 3031 (197°) → 3014 (102°) : Survey on MS safety;

also point on flange is 200° /

- ANSAC: problem in timing (test) clock & need DCP -

② 100%, 1158 MW LCO PORV block vlr

- GB 1tr stage completed

- DG wiring changes (2A) (2B) thru & Fri

④ Project Reports

- similar reduction

- 2-2 packing

- degraded voltage / junior

- modules

- silver plating

4-25-90 Wed

Emrg

#0

latest trip

184.2 (~15%)

#1

181.2 (17.7%)

reset

#0

#1

196.9, 197.1 (after cold both all night)

today : - different heating rates -

- Don will call new price for next tests -

REQ 90-7825

(May-5507)

& procedure for guaranteed -

* - check on orifices / shipping with Bm - (3267)

4-25-90 NRC Bridge

* - LAW talk to Cooper about PS testing today -

- DC's: we found 2 out of cal. in 11/89 & replaced

- at 1°/min, thermowell large direct insertion TC ~4° -

- Mike Witterman: speculates that water on shaft may be leaking past viton to help trip earlier

- Al Chaffee: one contributor appears to be loosening of shaft

4-25-90 Mark Arhantes (415-614-7421) = Cooper

- list of P/N's → FAX to him [415-614-7409 FAX]

- he will FAX proposal by tomorrow PM

4-25 Burr 1530

#0

#1

196.9

197.1

1°/min

194.0

197.2

2°/min

189.3

196.3

4°/min

186.4

196.3

6°/min

184.1

196.9

10°/min

183.0

196.7

15°/min

181.8 (both 203.1)

197.5

20°/min

- inspected: were not loose

191.2

will not
trip (203°) 1°/min
{ full
pressure }

4-26-90 Thurs 0900

① 1.4%, 1800 rpm & tie on in next 15 minutes

- (tripped) ^{~ 2 PM ~} yest. due to inverter closing Bldg points to #2 FRV
- St. cond. monitor + couple of others with Steve Stewart (PEENS W)
- Crit. 0107
- checked all RE power cat. for tightness / no other problems found

② 100%,

- DG. 2A outage for design change (RTS 2000)

- DRPI : 2D Link A ≠ B - some problems with Data B -

- gen. relay : calibration was OK -

- UV mod. first test done - no wiring problem on either

- 3021 looks good (gagged) - for awhile -

3001 still looking - not gagged -

- need to make sure we have data for Tues. bal. shot

* - 'B' MDAFP → not U/R to PT, ^{taking it} weld blew out ^(sawred) on 3/8" dia. -

* - US safety : values / manipulations -

4-26-90 NRC Bridge 301-951-6090

- Al Chaffee : suggested we think through correlating silica bath w/ water bath - I don't think necessary -

- Conclusion (me) : don't stick probe directly in bath &

seal or protect well from intrusion of bath around top of well

- Al Chaffee : wants no consider topping or no vibration -

- JW Pressure switches that Briny calibrated last week -

were 3 sets taken ? → get Chaffee a copy

- other components: send copy to al Chaffee & Milt Hunt →

ECD tomorrow PM -

{ accumulator check vlv & ppg morning reinstallation (Cagle) →

WRC (Bill Jones) wants to talk to them → Herb → talk to them

4-27-90 Fri 0700

① 90%, 990 MW

- LCO RE13120

- urgent: D' cond. vessel low flow (005) & spare in service

- 3001 & 3021 still leaking - / test May 11 or 18 -

- #1 turbine catch valve (gasket leak?) → need to remove insulate

② 100%, 1160 MW

- 2A DG mod. done / 2B out today -

- CKM: ^{write} prepare papers: spare LP turbine rotors / cracking progression -

9:00
 4-27-90 NRC Bridge 301-951-6090

- covered Wyle testing: ECD Monday to finish testing new switches -

- procedure for quas. switches in typing -

- need to push Wyle for draft report on these new switches; need draft @ least for NRC by end of next week / final 4 wk?

- want to talk to GB & Out & Planning people re: plan, sch. is amount of time that equipment hatch open, etc. -

4-27-11:00 Flavone John (Wyle) - 233: Will see about a draft summary of where we are now on 2 switches / procedure on other two should be FAX'ed to us ASAP.

- Tues will write summary (draft) / start testing Wed -

- switches not @ Wyle

9:00
 4-28-90 NRC Bridge

- send copy of proc. Mon -

- draft summary results Tues -

- test Wed → quas. switches -

- Steve Swanson: working on what RAT. sch. should have been (I told him about 7 days)

4-30-90 Monday 0700

① 100%, 1150

LCO: RE-13120 (vender - special report

- condensate phaser finished / being RTS-

- loop 2 OTAT: runback bistables illum. → have recorder → ^{min}

② 99 1/2%,

- Prot. selected for failure: loop 2 FW flow low compared

to NCB → input to Proteus

LCO
- RRV

- waste gas valve work today -

^{NI} - return relief leaks - maybe end of wk. -

4-30-90 Monday 0900 NRC Bridge 301-951-6090

✓ - Draft Summary Report out tomorrow: caution Al Chaffee

that it is very preliminary.

- schedule: { - K. Buzen - has draft procedure / extensive comments - ^{Min.} PAN
- quars. testing: Wed. - / - ? quarantid sensors ?

① sensors? - I W -

② sensors? - get brought back on shuttle -

4/30/90 Mon 0930

- call Joe / Clem on RE-13,120 (rep. three all weeks)

- CFAR / Burton / Movitz / ISI

- 12:30 DCP mtg

- John Meier: Oglethorpe agreement may be some (weeks) -

- FNP 2 - dem 11 days for start cooler motor brgs. (Joy / Ralima) -

- Hatch 1 - outage - 26 hrs off

* - look @ AP-24: why do we need here? LAW -

- infraser: Tech. Serv. report at ASAP → need implemented by Aug. for 42 power -

- talk to JEG to get NRC results from last week → inspection module development for G.O. support -

- Fri 9:30 - NEL training (Florida)

12:30 DCR mtg -

- ext. team check vls. → #6 blaking: Tim's flying -

- SG scrubbers: JAE → check into modifying some spares -

02:30 Billy Baker / Tim Rollins -

- NR: - define responsibilities / procedures / training for doing work -

- assures Nat. Board that all work done per Sect. XI

(Go. not Sect. XI Code State) -

- still looking @ "QA program" for NR is issued as "Admin Proc."

→ draft out end of May -

Cooper: Sheltone O'Young { 415-614-7400 }
 Mark Arhontes { 415-614-7421 }

4-30-90 4:15 PM

② 100% ~ 1150 MW

- I/O card changed out for Facelflow #2 → man. calor. → good tol.

① 100%, ~

- Cont. Proc. Unit changed to 13120

- OTAT #2 spiked again some today (still operable) (greenback portion only) ^{bistable}

- AMSAC: DCP working E-Proc changed to 55 cards (self-diagnostic cards)

U2: [crud + U₂ 0.9 → 1.2 last ~ 10 times]

5-1-90 Tues 0700

① 100%, 1140 MW

- RE 13120 work complete → RTS today

- OTAT greenback bistable - recorder

- MS safety: Harvey get Crosby back / load ship. night today

② 100%, 1148 MW

LCO - FORV

- working waste gas: valve 115 / O₂ cell -

- U1: letdown outage Fri.

5-4-90

- shuttle next wk will leave Wed 5-5:30 -

① 100%, 1150 MW, 10,100

LCO

- RE 0848: repaired syst. → RTS today if no more problems

② 100%, 1154 MW, 10,070

LCO PORV

- DG 1R: (JW PS tubing had crack last night → plugged ^{no alarm} _{capable})
 { we have one of another # in stock

- DMIMS: - gagged safety: SG #1 data inconsistent

- 2 temp. acc. on steam line → appeared to be coming from that,

but tape going out to W this AM (~1100 @ W).

- HP/maint. walked down last night → all done points OK

except primary manway (one pt. ~1R, sent to 200 m r) -
 (Foreman Hills 9-9:30 AM)

- equip. truck: noon - arrive ~~midnight~~ / people today Sat AM -

- may-maint. order -

8:00 telecon: - equip on-site 9-9:30 Sat. } ^{fr} -1 to next acc.

- 2 hr set-up

- shut down ^{taking} ~~at~~ ~ 2:30 PM Fri

- 4 hrs to first cut @ tapes

W: Richard Shuman / ^{lead} Mike Virginia / etc.

5-4-90 Fri: NRC Bridge

Exhibit _____, page _____ of _____

Wyle data

- had brass shavings inside → cleaned -
- 19112 : -162.2° → as-found trip setpoint (on DG 1A IW) -
- 19117 : would not trip → new IB IW (never used & was leaking) -
- 19153 : IB LO hi trip → large piece of pipe dope inside (191° as-found)
- all spacer tubes were tight
- yesterday: 19111 - as-found 188.7° (from DG 1A IW) {shavings? dope in? exhaust port?}

- hypothesis: 19111 had trash in seat / 19112 set lower →
19111 prevented pressurizing either of them → 3rd DG
start blew trash out of 19111

- all Chaffee raised operability question about rest of DG's →
Brakman had some questions, no real comments -

- ECD: today to complete testing @ Wyle -

- 19112 history:
- 3/1 - Cal. AF 210, reset 203
 - 3/20 - event
 - 3/30 - AF 186, reset 199.9° → missing cover gasket
 - 3/30 - was waiting → replace
 - 3/3 - @ Wyle: had trash → cleaned → AF 162.2° -

- fuel oil 7 for pump → Shin: David - day change

- Crosby: don't worry about this cycle - Furmanite →

Crosby ^{Marshall Jackson}: "Vh: will not stick open", design of spring guide,

may get shift setpoint shift & set on high side -

- send Furmanite procedure to KMH → talk to CKM -

5-7-90 Mon NRC 301-951-6090 (all Chaffee)

- Ken Bure: 4 old switches & 1 new switch - all had some delrin (metal sleeves & pipe joint compound) - new one apparently same with this from Calson

- check with Wyle for final report by next Tues (5/15) -

- did not commit to Cooper -

- talk to plant about switch testing -

5-7-90 Mon

* - call Brock / Hunt today re: DG plan -

* - emergency spares: need input for Cap. Budget -

5-8-90

② 62% ↑

- working ARV B-B back today

① Mode 3 installing accels on #1 SG -

- noise went away below 63% coming down -

- Ken Brockman agreed with DG test plan -

8:25

5-8-90: Dan Smith (Wyle) - will get final report out Wed 5/16

5-8-90: NRC Bridge 301-951-6090 (all Chaffee)

- report by Wed next wk - OK -

- talking to QA about possible audit of Calson -

- have not told Calson that factory cleaning is new/did get cleaning procedure -

- no progress with Cooper -

- what done on Part 21 (5/88) from Calcon - Herb -

5-9-90 Wed 0700

① - Mode 3 -

- SG ammonia "fixed" - 2 hyd. leaks on #1 SG - { limited copy / fill line

- problems with SG #1 accelerometers (11 temp + 2 permanent) →

now calibrating ;

- ECD: 1000 CST to pull rods -

- RCP #3 : #2 seal intact -

② 99%, → power buildup / doing RCS leak tests -

- turbine in standby : one card to pull (GE confirm no trip) & replace -

- BA tank level : 7 day shutdown -

- 8:00 telecon on letters -

(700 MW)

① 627% ↑ to 767% online 2349 last night

- LCO's: 3026 B (MSIV, loop 3 - hyd. leak) → today -
at reservoir - cracked weld -

- loose parts : nothing yet

② 1007%, 1150 MW

- problems with latching pressure controller / work today
on access latching -

- LCO 3 RE12116 (CR - replace tube), PORV -

- replace turbine control card today -

- ARV loop 3 - work today -

→ Jack Lee: start leak detection: need data to react vlt to 0.25 sec -

Bill Barrett (emp. @ site) → went out this AM -

5-10-90 Thurs NRC

⑤ - send copy of Cooper procedure to IIT after we get -

- Wyle report next Wed. ? Yes -

- Oak Ridge report to NRC for battery capacity for DG

will
discuss
this
} field flashing (draft report, we can't get) → how
many amps to flash DG field? (what is load to
flash field) - / batt. disch.

- ERF has data on actual discharging during LOSP -

- IIT report out when Al Chaffee leaves Commissioners

(now estimated - 6/1/90).

5-10-90 Thurs 1300:

^{Diff}
Winn ^{diff} (10): - all channels picking up some restrained ^{some} part

noise / low amplitude / not enough leading edge to locate /

not enough info to locate -

- probably $< 1/2$ or $1/4$ #; flow or vibration excited /

guess near tube sheet / checking skins outside etc

-(channels now tubes seems to pick it up better) -

- frequency less @ 45%, more often @ 55% level -

Thurs 1300: SG Loose Parts -

- Worst Case (I) - loose part on tube sheet: can only get question
if know more about size, etc. - get it

- Worst Case (II) - higher up (can TC) -

- Case III - steam separator area - no ^{split} problems / continue to monitor

- Case IV - outside SG - no safety problem

5-11-90 NRC Bridge 301-951-6090

- Targeting test @ Cooper ~ 5/21

* - talk to Wyle today re: test report status (also
get draft copy for me to review before issue)

④ - A Batt. 800 A on ERF - I think may be bad -
- Parts on ERF: { J9619 & J9620 Batt. Current
(John Eulich) Batt. Volt.
ANP ^{has} disk.

Look into it

5-11-90

RM: W ltr with recommendations on SG #1 -

- RG 1.33 (notify NRC on output & IUS) -

- W quite convinced filtration are cumulative from
US safety & MSIV -

C.K.M. Mathon: 601-878-5724

5-12-90 Sat 0900

① 100%, 1160

U = .31

② 100%, 1166

100% PORV

1 RE 2562 T.S. Surv. done

Leak lit. done

- MSIV No. Leak: will look for next week (var. small)

U = .21

5-14-90 Mon 0700

① 100%, 1157 MW

- LCO: seismic monitor LCO: need to revise procedures to restrict type

② 100%, 1156 MW

- LCO: PORV / H₂ monitor STP -

- 2B HDP - mach. seal leak → get rebuilt pump back & do replacement

- NSIV: { 3036 B - hyd. pump cycling excessively - work tonight
3016 A - small N₂ leak - later

* - push FO xfer pump -

- procedure for Cohen switches?

5-14-90 CKM Staff Mtg.

- NSSS Next Tues. / TG - following Tues	}
- Pushing UZ outage work -	
- close AI	

- David Cooper	}
- Strat. Plan	
- Cap. Bdg.	

- Dat. Mng. : Notify "Ed Crowley" on pl't items of interest -
 - CKM from WGH & RPM -
 - Werh: call other pl'ts on pre-outage inspection

* - Strategic Plan Mtg: 8:15 -

5-15-90 Tues 0900

- ⑤ - Work get with MS Safety vls: acc. sig settings & generic
- infrared: look @ gas systems leaks

① 100%, 1157.4W
- safety leak detection

② 100%, 1161 MW

- 3036B, isolated part of hyd. sys. & pump get cycling
- seismic monitors: intermittent tape starts
- 'D' vessel out of service: resin leaking by
- CR pressurization STP: 18 mo. drop dead date next Mon.
- stator cooling water leak → sensing line on floor transmitter → (Petrone)
- HDP: available ~ 10 days / also do function valve
- * - wall leak in SF Pool? - (uz) < 300 gp month > → talk to Bruce

5-16-90 Wed 0100

① 100%, 1160

② 100%, 1160 LCO - PORV

- CR pressurization: look @ inlet dumper; 2 hr temp records; Pommeroy on-site; head correction on location of sensing line
- open generic question on effect of non-safety fan on safety related function - NEL look @

- H₂ tank: Mait includes can't be fixed; look @ buying, or tank → style

LCV 4392 - (4F) HD tank A: normal lcl control valve "sticking" → 90% tonight to do

(4F) - Quims: plb. (Went) talking to Rockwell re: MSER room

(4F) - stator cooling leakages dp trip switches, one of sensing lines → wall always need flex. conn.

- HDP rebuild: need parts to get rebuild schedule ^{may be} ^{after cond} ^{done}

④ - U2 SFC: can get to ~50% of work: Mike Cagle (maint.) hob

- start DC-temp. switch work tomorrow? or today -

5-17-90 Thurs 0700

① 100%, 1145 MW

- CR HVAC: head of air (20') made (.21" error) / 'B' train today

- 'B' HDT pump digital valve was stuck / lub. → works smoothly

- 'D' powder vessel: RTS today -

② 100%, 1146 MW LCD - PORV

- Diater cooling line sleeve installed -

- #4 RCP vibration (frame) trending up - (> 3 1/2 - 4 mils)

- H. talk: plant looking @ options with the St.

- sent msg for ARV: 6/30 - expiring

* - 3-4 days to finish moving fuel for SFP / not moving today -

9 NRC call

10 DG mtg

5-17-90 Thurs 0900 NRC telecon

- get copies of Wyle report ASAP -

Alex Maris (NUMARC)

5-23-90 NUMARC Workshop on DG Reliability

- Topical Report not sent to NRC / 87-00 has been

- Reg. Guide 1.9 being revised to recognize that

NUMARC 87-00 is acceptable means of merit rel.
issued for comment on Generic Letter ~ July for com.

- industry reliability since 1983 ~ 0.98

- the "trigger values" in NUMARC are more

lenient than our T.S. -

- Generic Letter out in ~ July asking that we

commit to NUMARC 87-00 § App. D (as one alternative) =
to close generic issue B-56 -

- Reg. Guide 1.108 will be rescinded by NRC when

R.G. 1.9, Rev. 3 is issued → we need to do a

tech. Spec. submitted to go with 1.9 (NUMARC 87-00) -

- NRB (Dr. Munley) has agreed that 4/25 is acceptable

level of failure before going to accelerated testing / Elect

Branch Chief disagrees (thinks our present 2/20 level is right)

- Tony Patrucco (NUMARC) / Bill Brown (INPO) -

- need quick comments on 87-00, D : INPO considering
workshop

p. 4: change "inoperable" to "failed state" -

p. 4: define "emergency" mode - NUMARC → LOSP only

p. 3: need to clarify load-run definition (< 1 hr ?)

p. 4: "emergency mode" only means "loss of power"

- Harvey Wyckoff: discussed NRC buyoff of Monte-Carlo

statistical evaluation of failures to determine reliability

- this method was used to set trigger levels → can't

be done in reverse i.e. can't calculate an

actual reliability value, just say $>$ or $< .95$

based on triggers -

- Dong Time: exceeding trigger values -

- Generic Letter in July is also going to ask for

a 4/25 trigger (per D.G. basis) for accelerated

inspections \rightarrow this reliability concern far exceeds

the target #'s in the NUMARC document also in ~~the~~ ^{27-00P}

-Topical Report:-

-not sent to NRC

-intended for use in table excellence (50-100)

* - NUREG 5057. has excellent report on DG monitoring

* - call Tony Petroangelo (NUMARC) on contact w/

(or Alex Marion) \Rightarrow may or may not open 'D' for counts -

- IJPO rep. (Bill Brown) → the NUMARC doesn't basically

yielded to IASB definition of failures & costs - 2

think there are some major areas (support systems, etc.)

that should be considered for clarification, but

Bill Brown (INPO) was very defensive of the

way he wants to interpret the guidance (not

the way it was written) -

5-23-90 *Adams*

DG IBA ^{TW} switcher. Chg yesterday / DG trip

92 PROJECT
048035

5-25-90

① 10070, 1160 MW

- DG 1B (2259) operable after surveillance -

② 10070, 1165 MW

- slave relay testing: ~~At 11:00~~ DG 2B started when it should not have -

- OTAT runback alert (no channel identified)

* - 42 relay process tonight: { J.D. Davis - IC } - CKM wants Sq. Dist. Wili - Engr. Engrs. there -

- find out who sig. post. Engr. is [Tony Ansel?] -

- Permit # 3

5-25-90: Ken Burr (0820):

- 6 JW switches @ Wyle: 3 already tested spares (had fittings), 3 switches from DG 1B [~~the~~ fittings had been removed - contrary to procedure]; currently testing 3 with fittings -

- things to look @: as found setpoint; mic. air pressure @ 165°;

trip setpoint @ various air pressures; internal assembly -

{ Mike Waterman Calcon

{ Will Whit Cooper

* Phil Winton / "Hal Taylor" (was Harold Bradley ^{retired} group)↓
substation↓ Fossil/Hydro Support -
8-526-7023

- Gaston Bayle / Jack Carson - relaying (vacation)

↓ motors/generators/

Ken Burr (5-25-90 / 1530)

177.8, 178.5, 187.6 - spares from plant

- ones from engine → 2 of them

reset ↓ 155

tripped when put into 165° bath

trip (166.0, 160.5, 160.8) - ones from DG 1B

2. heating element @ back of bath

- 50% / vented until {177° switch / 165°}

get to 50% (slow

rate

- 5% increments / 5, 10, 15, etc. - vent -

- leaves top cover off when setting / looking @ it -

- who make made?
- heater @ ~~bottom~~? back?
- 3 switches @ 200° -

5-31-90 Thurs 0700

① 100%, 1160 MWe, 10,070

LCD: CR emerg. filt. act. ckt. → proc. chg. by Mon. for sequencer

MSIV 3036B - ^{blocked}reserv. leak - ^(weld)RTS about 1 hr. → [same as 2 wks ago]

② 100%, 1160, 10,070

LCD: PORV / CR emerg. filt.

- large 2 ARV inst. for seat leakage -

- U2 relays pulled: 2 differential relays appear to be set high

- U2 HDP 2B projected ~6/24-

- talk to Sam Shah about where relay

- U1: Secondary CT performance test start this weekend -

- DG 2B JW mod. completed yesterday, fall done -

5/30 - Trip to Plant

✓ - DG JW TS: get written plan to HH

✓ - live load packing: worksheet - get DCN as generic for all valves -
then ABN to update drawings

- lifting rig fail: talk to Mowat about \$50K quote - why so much?

✓ - Sam: ops of U2 SG lbs to Gms

- NIS-1: join status?

- RCP seal: call W on recon. ? {??} → letter Mike K

- review SG probing rates & #

- Review SG EC for ZR1 & IR3

- talked to Gockney about starting ZR1 on 5/7: only

problema would be FH Machine mod → all see advantage
of early start

5-31-90-11:00 Ken Burr

- do the oil switch had Part 21 failure problem

(Part 21 = 5/12/88 9 switches that are not entirely pressurized)

- we should have 4400 B (recessed head to prevent diaphragm from sticking due to spring pressure)

- our switch took 115 psig to break diaphragm loose so that it worked

- Ned H. Halfinger @ 13:20 → he will get all switches checked [3 do LO trip, 2 tanks LO, 1 TW press]

- Mick Shiloh 13:30 (Part 21 response) @

- 4/88 = spare parts only (MDC to check warehouse)

DC:
- 5/88 = installed switches are OK / spares

DC: switches installed & run & tested are OK / spare warehouse

- Warren Halfinger 1500: - all 42's are old style, some 41's

have been replaced / some are old - have 3 spares; he

will order a bunch of changeout on non-critical basis

6-1-90 Friday 0700

① 1007, 1155 MW

LEO: CR Emer. Fitt. ^{logic} act. timer - / shift decided not to enter Bkt. LEO ^{upward}

② 1007, 1160 MW

LEO: PORV / CR Emer. Fitt. → still having to figure how to modify test sequence to be able to test without making sequences / DG imp.

* - call Al Chaffee about DG do-LO switches / skip ^{talk to} incident

* - call Jim Swartz when I look @ Part 21 =

- 10 weekly call -

6/1/90 Harvey 0900* - send Harvey reasons for $165^\circ \pm 1^\circ \text{F}/\text{min}$ for NRC

- { coil clogged } | plant both - fixed
 - { tie wrap on wire }

* - DCN on fuel oil pump \rightarrow was due Wed.?* - talk to Cliff / Bob \rightarrow restraints from enrg. / working vs. issued?6/1/90 Bob Johnston (Cooper)

- board logic: no problems, could not duplicate lockup

- only problem was PS \Rightarrow Part 21 was poorly worded, but meant "if not continuously pressurized (operated), then subject to this problem"; Ken Bus discussed with

Maj. GA of Cooper about Part 21 revision -

- Shelton O'Young return Monday & can address mod.

6/1/90 ¹²³⁰ NRCAl Chaffee 301-492-7229 / Rick Kendall

- I briefed him on LO LO pressure switch problem:

1 - PS had failed, like Part 21 failure

2 - Cooper said that Part 21 was supposed to cover ones not "continuously pressurized"

3 - discussed clarification of Part 21 with Cooper

4 - have reviewed potential for 2/3 failures between weekly

DG tests & don't feel likely

5 - ordered & plan to replace all ASAP -

6 - site had briefed Permit today (he asked about Reg. 2)

6-1-90 1408 Sautzucker -

- Security red phone: plt. security emp. recd. notification in ~ Nov '88 for computer graphs that undetected failure could exist ~ 4% → no compensatory action taken
- Part 21 today → 1 hr (security significant deficiency)
- red phone: uncompensate security problem

6-1-90 1500 Harvey

- hot plate with stirrer - will try -
 - base now has good circulation and no stratification:
- | | | | |
|---------|----------------------|-------------------|--------------|
| OC 3003 | : Sunday 191-197 | : Fri 6/1 - 191 | (Wyle 178.5) |
| | | | 180.0 |
| OC 3006 | Sunday 181, 181, 183 | : Fri 6/1 - 181 | (Wyle 177.8) |
| | | | 177.8 |
| OC 3011 | Sunday 194, 191, 191 | : Fri 6/1 - 188.4 | (Wyle 187.6) |
| | site 5/27 - not | both site | 188.5 |
| | good mixing | working | Fri 5/25 |

- Joe Stygalis: push E-prov. f. under Mon. PM → on site Tues AM -

291-5192

6-2-90 Set

① 100%, 1150 nwe, 10,100 - 4.07, I. 38

LCO CR Emerg. Filt.

362-7173

8 LCO's (new) - 8112 #3 (bypass nwe NSCW) 'A' Train stop [bkm nwe and on DC's]

- workday noon (corroded bundles)

② 100%, 1147 nwe, 10,100 - I. 25 4.09

- BTR5 in service

LCO - ARV / CR Emerg. Filt.

- Cont. Run Chiller ('A') → U1 NSCW

- Security logging people manually int./out of vital/prot.

6-3-90 Sun

① 100%, 1150 MW 10,160 B=1437

LCD's - CR Emer. Filt. logic: start testing tomorrow

3 LCD's - NSCW FEV in progress - ECD 0900

Wanna
from
Action St.
to do test
+ long
term

② 100%, 1153 MW 10,120 B=70 ppm

LCD - PORV / CR Emer. Filt. logic / ^{A'}Chiller

- security OK: no significant open. problems -

6-4-90 Mond 0900

① 100%, 1142 MW

LCD - CR Emerg. Act. logic 43.56

② 100%, 1144 MW

LCD - PORV / CR Emerg.

- loop 2 ARV RTS wad.

- CR Emerg. testing: Hester writing procedure for Wed. - draft warning to NRC today -

- manually logging people into vital & prot. area -

6-4-90 - Harvey / Mike Duncan / Mike Hobbs -

- 3 switches set @ Wayne @ 200° were site checked @ 200°
Sunday 4/3
will send me data -

- they think what is happening is that they have ^{seen} repeating various
time (up to 6 hrs. @ 150-200°), which makes output ↑

P-3 { Good 1A 3 LO P3 & Good }
 1B 1 Turb. 10

42% all switches bad

6-4-90 10:15 - Rick Kendall (NRC-IIT) -

- he called for Mike Jones about DG PS's:

~~He~~ I told him that we were giving Cooper
an opportunity to clarify their Part 21; otherwise
we will (Nuclear Network).

6-4-90 GE (T. Bakken / DNM / Tom S. / Ron Quoy / J. Cox)

- VEGP Tech. Modules to us this week : GE (T.S.)

- GE sends latest module prices (base) : DNV / T.S. / R. Daly

- Terms & Cond.: ~5 major areas (branch / indemnity / hwy. work) - DNV / J. Cox 6/13
(~2 wks)

- DNV considers loan / penalty -

RPM
5540

6-5-90 Tues 0700

① 100%, 1150 MW

LCO : ESF act. logic - RTT 6/13 end of grace period

NRC call tomorrow on waiver of compliance

- secondary perf. cont. : 54BD

- 72-hr ^{red.} ~~smudges~~ : CCW → 72-hr
look rate tonight

② 100%, 1152 MW

LCO : PORV / ESF act. logic

LI-765 : start sup level → replace transmitter (7-day)

'B' - neutron monitoring : spiking down (7-day) [NE-13135]

- DG1A : DFO → push design change

- need oversized seal ring for ARV #2

* - incise / excise cross-cal. / 92-day - Table 4-3.1 (Note 6)
[Florian / Bailey] → 10-day with seal

- missed airlock test (Type B leak) : U1 → historically
(not currently overdue)

will check E-probe -

~~Have~~ - RCP motor ? - 10-yr plan ?

- RCP seals ?

- ITC sup. & mech. sup.

- red phone : not doing 4-hr. vital area door checks (Fri)

6-6-90 Wed AM

- U1 BTR3 dam. #7 - flange leak ?

- sequencer testing / control room testing → CKM directed higher att.

- PM progress :

last year	~ 21%
this year	up
last week	38%

6-7-90 Thurs AM

- U1 : RCS sodim @ 60 ppb : (due to that spray test)

6-8-90 Fri AM

① 100%, 1085 MW

- LCO : ESF logic

- ~~SB~~ Hb H₁-H₂ / 6B † 5B dumped → IB HDP tripped
↑
(level switch failed)

② 100%, 1143 MW

- LCO PORV / ESF / 2 REZ116 (failed)

- CR processing for tested (RTT) last night - (112 miles) /

have an date discrepancy (one for only got ~.24") → 5 mps.

- phone call @ 9 -

* - ISL final report draft out ~ 6/13 / typed 6/14

* - ISL u1/u2 differences - 9/14 commit to Tim Reed / draft and / Aug.

6-9-90: Weekly Call

- coast down strategy: - instruction out by Monday -

- trip setpoints? B. Florin & W working / with T.S. interpretation -

- ^{DG} Switches:

- got 11 PS from Grand Gulf → cal. weekend & cal. T.S. this weekend

- replace IS & PS one DG at a time next week

- SFP leaks:

- drain line rodded last week / VOZI clogged → no leak @ present

- Rashes Saco & Point Beach have had leaks when racking -

- will put some fuel into NE corner: plating & JAE -

- REA to SCS: JAE

- JAE also looking @ moving some inaccessible rocks from u2-u1.

(1st 0 runs on W side - per Florin there to short track) -

- DCP's (Capital):

- RCN-250

- H. Hand. / S. Phillips (Tues 6/19):

set my meeting with Cliff =

6-11-90 Mon AM

① 100%, 1150 WWS / U: high → have replaced crystal tank LI

- LCO: CR Emerg. Fill. Act. → JCO & waiver of compl.

② 100%, 1148

- PORV, CR Emerg., RE 12116 (FA today)

- H₂ tank vendor in today

- ERF data concentrator

- fuel oil transfer pump → site paper today

- DG: replace 2B switches today (Press. & Yang.)

- sequencer test: concerns - damage electronics in hooking
or cable disconnect / have to go under 2.0.3 on AFW/

- IIT briefing & Aug. press - favorable as could be

6-11-90 CKM Staff:

- NSSS mod. mtg. last week: revised draft by 6/30
- TG mod. revised draft here today / # Fri. & Mon.
- recommended 10 scale for $u_2 = 2$
- SG's $20\% \times 4 + AUB = EPRI + \text{sign. of CKM/WGM \& RPM to do}$
- Kevin Glendon: report 6/25
- still trying to resolve terminal testing (u_2) #
- ISI final report / Resonant response
- Harry: Next Tues on O&M DCP's
- * - O&M: review typed version from Em -

6-12-90 Tues. AM

① 100%, 1160 MW $u = 0.78 \rightarrow$ start entry + AOP

LCO: CR ESF (P&B this today) / loop 2 DT - bad card during ACOT

- remove perf. testing instruments (check, etc.)

- suspect RMU leakage into VST -

* - RCS Solim - 48 ppb - : need design chg. for filter design
changes so can sluice some damm. back

② 100%, 1151 MW

LCO: CR ESF/PORV/RE12116 - close paper today / DG 2B - warning for run;

then do DG 1B : JW exp. leak # LO leak repaired # switches changed -

- potential red plane: inattentive guard

- chem. NRC inspection on-site: unannounced -

AX3AE03-9/10

6-13-90 Wed AM

① 100%, 1150, $u = \sim .68$

- LCD CR Vast

- lots of dirt in pipe, no sign. leaks found / some water in region. #1 R

- TDAFP smaller reduction work (info LCD)

② 99% \downarrow 90%- 2B HDT normal level valve / maintaining HDP level normally
to get to 90% [problem: ① hi level drop ② normal level vlv]

- LCD CR Vast / PORV

- #1 RMUW Pump outboard long. smoked (fire bright vap. to smoke)

- Proteins failed last night -

- DG 2A mod. today - / info LCD on 2B solenoid -

- drill today / full scale accountability -

- Ball Trinity filter design change -

- Fri 22 8:30 - chemistry mtg. (Dennis R.)

6-14-90 Thurs AM

① 100%, $u = 0$ (with chg. & letdown isolated)LCD: DG 1B / CR / Smaller (TDAFP) \rightarrow work done② 93%,
LCD VI 41 / CR Vast③ - hi level drop vlv long worked / normal level vlv controlled, relay shift.
 \sim another day (in Sx.)

* - Ball Trinity Filter - new filter 4-6:

6-14-90 :

- ④ - { talk to CKM / WBS \Rightarrow GE thinks we want a
full time GE Schenectady engr. reporting to Aurahia,
for Vantage }

6-15-90 Fri

① 100%

u. i

LCD : CR ESF / DG-1A \rightarrow just started switch

- M. Cofe : tightened vent vlr in Reg. Rm (stalegite) \rightarrow will mfg (chg. side of reg. HX)
- will look @ cap -

③ 92% \rightarrow holding until reactor 4334. (open. has damage diaphan) \rightarrow ECD sample

- RMU rebuilt bearings / long align

- LCD : PORV / CR ESF

- NI +1 (used another driver) \rightarrow operable - will watch today -

* - phone call 10 CST - / 3035

- check Ken Burr when new air start vlr. available -

① 100%, ¹¹⁶¹ 445 MW

LCD - CR Emrg. Vent. Act.

- U leakage still high / more imp. today \rightarrow tomorrow try alt. chrg.② 96%, ¹¹⁰⁵ 1060 MW \rightarrow air coast down -

- LCD : PORV / CR / Act. Stop LT (30-day)

- RMU pump : running & check for vlr.

- CR Act. - mtg. for actually activating procedure

6-18-90 Mon CKM Staff Mtg

- (*) - terminal: meet with GE & recommend today -
- RCP seals - don't do
- EC: 4x20% - do

- site O&M budget: talk to WBS-

* - review IIT report for comments (NUREG-1410) →

technical errors → Jack Stringfellow

* - { free to test secondary instrmts: Tom Cloney/Hells -
R. Byrne → talk to Ron Lynch -

If you have a problem that may become significant, or if some outside organization are involved in an issue or problem, then your manager should be informed - RPM 6/18/90

* - get quote on sequencer training → WBS request -

6-18-90 GE on terminal testing

Dave Ray - turbine technology!

{ Limerick - 0.6 Hz identical units } could be as much as 1 Hz
Hatch - 0.5 Hz almost identical
Ontario Hydro: 46 & 48 -

- will not have to retest Unit 1; may have some change because of bucket erosion, but not much;
- flexibility of rotor should be same if warmed up -
- due to manufacturing tolerances/differences between units -
- would not expect to be able to excite/bucket test.
- 2 Hz load / why? - Al Morrison

= ± 3 from measured: $\frac{1}{2}$ of I_2 < 2%, 6 min. also
 2-5%, 2 min. "
 5-10%, 1 min. "
 > 10%, 12 sec. / trip 1 min

6-19-90 Tues AM

① 100%, 1145 MW

LCO - 72 hr (0115 CST): 'B' Cont Chg #3 for failed start for SSPS
 slave relay / run manually -

- CR EF

- down vlv in bottom Hx / no chg in leaking -

- plant wait to swap chg to another

② 95 1/2

LCO PORV / ER EA logic / SG level ^{#3} 538 - card replaced /
 troubleshooting
 - channel in trip -

- H₂ tank vendor tomorrow -

6-20-90 Wed AM

27397

① 100%, 1140 MW / new Go. PK. yesterday

- CVCS cycle eval. / swap chg. paths (maybe) - next RCS ltr rate Fri

- LCO: CR Vent → have to start sampling by 7/13

: simulators: reduction (CCW)

: (DG 1A: tape left on fuel rack (pasting) → failed to start →
 CKM wants plant plan to keep pasting on operator's part.

: 'B' HDT hi level dump → air leak / vlv. on jack → (might
 need this
 weekend)

② 94.9%, 1084

LCO: PORV / CR Act. / finish PM tomorrow

- final receipt in progress -

* - check where Sequence test review is done (this PM scheduled)

6-21-90 Thurs.

① 1007₀, 1130 MW

② 94.2₀, 1065 MW

- DG aircompress problems: 1. ^{IB} won't start / ^{IA} pressure controller problem -

* - (Plt. has concluded that can run sequencer / block DG →
 2nd review in progress, then PRB review (GB Two contact) - Plt.
 - get some backup review of sequencer loads -
 - don't submit review now -

6-22-90 Fri 0700

① 1007₀, 1130 MW

LCO - CR ESF logic

* - #7 log. ~ 9 miles, up ~ 1/2 mil from last wk. (8-9.4 TDAFP)
 Spiking to ~ 11% (replace probe)
 - will recal. cond today / but was confirmed by handheld
 - #6 & #8 have also gone up some
 - planing tonight (ODG call CEM ASAP)
 - that walkdown for chg leak -
 - pushing procedure review & eval. for CR ESF act. test
 - working up request for outage -
 - pointer tripped TDAFP tri-throttle valve -

#8: ~ 4.0 (avg)
 ~ 3.8 (avg)
 #6 5.4 (avg)
 5.2 (avg)
 5.1 (avg)
 (act. when SC5)
 review done

② 93.1 T₀, 1052 MW

LCO - PORV / ESF Act.

- (ending stator cooling flow switch: vibration problem → ^{try bypass} mod.
 } MDD for report today; need to look @ 2/3 -
 - Permit + Response ltr. in typ. -
 - 8:30: Davis - clean. review -

6-24-90 Mon AM

① 947%, ↑ 1120 MW

LCO: CR Act. Logic (test 'B' Train timer / - need Sftg. Eval. / A-due)
 'B' H₂ monitor out of ACOT

- balance shot good on #7/#8 bearings appears good (#6 highest ~4 mil. new)

* - WSIV binding problem when shutting down (also MPFV's)
 - also lost switch problem
 - 3 channel binding found

② 907%, 1027 MW, $u = .31$

LCO: CR Act. Logic

'B' H₂ monitor ACOT - FWC / react. pump level fixed

- stator cooling switch brace installed: watching before RTS-

- plan to shut HDP outage Wed./2B (10:30 days) + start. valve -

6-24-90

CHM Staff:

- CMCO: ltr. to review / only do enough months to get them a ltr.
 - new repl.: Ken Glaser

6/24/90

- Tom Greene / John Aufderknecht - sit down & work
 through what division of responsibilities
 in ISI area between Corp & P&T areas [Guss & Herb]

6-24-90 3:30 PM

① 100% / JB special test ~ 9 PM today -

- H₂ man. LCD's cleared both units

- Run RCS leak rate tonight (~11-12)

- Junior: Murch test freq.

6-25-90 Times AM

① 100%, 1140 MW I = .15, U = .77, Crud = .03 {Still in transit}

LCD: CR Logic - 'B' Seq. Test. done last night (~36 sec.)

- clear today -

- vacuum / - leakage ~ 12 scfm -

② 89.5%, 1016 MW

LCD: CR Logic / PORV

- 'A' Logic procedure Wed PM / 'B' Thurs PM -

- transient: 2B HDP outage (~7 days)

- inleakage ~ 36 scfm -

* - Problems inverter problems (several failures)

- James Wesley: MSIV Sys. sup. - will call me today -

* - 2y. hotel hoist: what kind of brake?

fl - 2 packing: Joe S. -

interviews -