

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8810260522 DOC. DATE: 88/10/19 NOTARIZED: NO DOCKET #
 FACIL: STN-50-528 Palo Verde Nuclear Station, Unit 1, Arizona Publi 05000528
 STN-50-529 Palo Verde Nuclear Station, Unit 2, Arizona Publi 05000529
 STN-50-530 Palo Verde Nuclear Station, Unit 3, Arizona Publi 05000530

AUTH. NAME AUTHOR AFFILIATION
 KARNER, D. B. Arizona Nuclear Power Project (formerly Arizona Public Serv
 RECIP. NAME RECIPIENT AFFILIATION
 Document Control Branch (Document Control Desk)

SUBJECT: Provides current status of plant fuel surveillance
 commitments & plans for future fuel insps.

DISTRIBUTION CODE: A047D COPIES RECEIVED: LTR 1 ENCL 0 SIZE: 3
 TITLE: OR Submittal: Inservice Inspection/Testing/Relief from ASME Code

NOTES: Standardized plant. 05000528
 Standardized plant. 05000529
 Standardized plant. 05000530

	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL	RECIPIENT ID CODE/NAME	COPIES LTTR ENCL
	PD5 LA	1 0	PD5 PD	5 5
	CHAN, T	1 1	DAVIS, M	1 1
INTERNAL:	ACRS	6 6	AEOD/DSP/TPAB	1 1
	ARM/DAF/LFMB	1 0	NRR/DEST/MEB 9H	1 1
	NRR/DEST/MTB 9H	1 1	NUDACS-ABSTRACT	1 1
	OGC/HDS1	1 0	<u>REG FILE</u> 01	1 1
	RES/DSIR/EIB	1 1		
EXTERNAL:	EG&G ROCKHOLD, H	1 1	LPDR	1 1
	NL 007 HEMMING	1 1	NRC PDR	1 1
	NSIC	1 1		
NOTES:		1 1		

TOTAL NUMBER OF COPIES REQUIRED: LTTR 28 ENCL 25

...and the fact that the *Journal* is a journal of the American Psychological Association, the largest and most influential organization in the field of psychology, adds to the impact of the *Journal* on the field of psychology.

THE UNIVERSITY OF CHICAGO
CHICAGO, ILLINOIS

RECEIVED
JAN 10 1968

FROM THE
LIBRARY OF THE
UNIVERSITY OF CHICAGO

U.S. DEPARTMENT OF AGRICULTURE
WASHINGTON, D.C.

OFFICE OF THE DIRECTOR
OF RESEARCH AND EXTENSION
WASHINGTON, D.C.

STATIONER'S COPY

NO. 10-7080-1

U.S. GOVERNMENT PRINTING OFFICE
1967 O - 348-000

10. The following information is provided for the year ended 31 December 2014:

SECRET

320 050

1. The first group of people who are interested in the study of the history of the United States are the people who are interested in the history of the United States.

10
 11
 12
 13
 14
 15
 16
 17
 18
 19
 20
 21
 22
 23
 24
 25
 26
 27
 28
 29
 30
 31
 32
 33
 34
 35
 36
 37
 38
 39
 40
 41
 42
 43
 44
 45
 46
 47
 48
 49
 50
 51
 52
 53
 54
 55
 56
 57
 58
 59
 60
 61
 62
 63
 64
 65
 66
 67
 68
 69
 70
 71
 72
 73
 74
 75
 76
 77
 78
 79
 80
 81
 82
 83
 84
 85
 86
 87
 88
 89
 90
 91
 92
 93
 94
 95
 96
 97
 98
 99
 100
 101
 102
 103
 104
 105
 106
 107
 108
 109
 110
 111
 112
 113
 114
 115
 116
 117
 118
 119
 120
 121
 122
 123
 124
 125
 126
 127
 128
 129
 130
 131
 132
 133
 134
 135
 136
 137
 138
 139
 140
 141
 142
 143
 144
 145
 146
 147
 148
 149
 150
 151
 152
 153
 154
 155
 156
 157
 158
 159
 160
 161
 162
 163
 164
 165
 166
 167
 168
 169
 170
 171
 172
 173
 174
 175
 176
 177
 178
 179
 180
 181
 182
 183
 184
 185
 186
 187
 188
 189
 190
 191
 192
 193
 194
 195
 196
 197
 198
 199
 200
 201
 202
 203
 204
 205
 206
 207
 208
 209
 210
 211
 212
 213
 214
 215
 216
 217
 218
 219
 220
 221
 222
 223
 224
 225
 226
 227
 228
 229
 230
 231
 232
 233
 234
 235
 236
 237
 238
 239
 240
 241
 242
 243
 244
 245
 246
 247
 248
 249
 250
 251
 252
 253
 254
 255
 256
 257
 258
 259
 260
 261
 262
 263
 264
 265
 266
 267
 268
 269
 270
 271
 272
 273
 274
 275
 276
 277
 278
 279
 280
 281
 282
 283
 284
 285
 286
 287
 288
 289
 290
 291
 292
 293
 294
 295
 296
 297
 298
 299
 300
 301
 302
 303
 304
 305
 306
 307
 308
 309
 310
 311
 312
 313
 314
 315
 316
 317
 318
 319
 320
 321
 322
 323
 324
 325
 326
 327
 328
 329
 330
 331
 332
 333
 334
 335
 336
 337
 338
 339
 340
 341
 342
 343
 344
 345
 346
 347
 348
 349
 350
 351
 352
 353
 354
 355
 356
 357
 358
 359
 360
 361
 362
 363
 364
 365
 366
 367
 368
 369
 370
 371
 372
 373
 374
 375
 376
 377
 378
 379
 380
 381
 382
 383
 384
 385
 386
 387
 388
 389
 390
 391
 392
 393
 394
 395
 396
 397
 398
 399
 400
 401
 402
 403
 404
 405
 406
 407
 408
 409
 410
 411
 412
 413
 414
 415
 416
 417
 418
 419
 420
 421
 422
 423
 424
 425
 426
 427
 428
 429
 430
 431
 432
 433
 434
 435
 436
 437
 438
 439
 440
 441
 442
 443
 444
 445
 446
 447
 448
 449
 450
 451
 452
 453
 454
 455
 456
 457
 458
 459
 460
 461
 462
 463
 464
 465
 466
 467
 468
 469
 470
 471
 472
 473
 474
 475
 476
 477
 478
 479
 480
 481
 482
 483
 484
 485
 486
 487
 488
 489
 490
 491
 492
 493
 494
 495
 496
 497
 498
 499
 500
 501
 502
 503
 504
 505
 506
 507
 508
 509
 510
 511
 512
 513
 514
 515
 516
 517
 518
 519
 520
 521
 522
 523
 524
 525
 526
 527
 528
 529
 530
 531
 532

[illegible]

10

THE

NEW YORK PUBLIC LIBRARY

ASTOR LENOX TILDEN FOUNDATION

1890

NEW YORK

— 10 —

30. 22. 19



Arizona Nuclear Power Project

P.O. BOX 52034 • PHOENIX, ARIZONA 85072-2034

161-01404-DBK/BJA

October 19, 1988

Docket Nos. STN 50-528/529/530

Document Control Desk
U.S. Nuclear Regulatory Commission
Mail Station P1-137
Washington, D.C. 20555

- Reference:
1. Letter from E. E. Van Brunt, Jr., ANPP, to USNRC Document Control Desk, dated January 8, 1988 (161-00730). Subject: Fuel Surveillance Test Results.
 2. Letter from E. E. Van Brunt, Jr., ANPP, to USNRC Document Control Desk, dated June 9, 1988 (161-01102). Subject: CEA Guide Tube Wear Inspection Results.
 3. Letter from E. E. Van Brunt, Jr., ANPP, to R. L. Tedesco, NRC, dated August 26, 1981 (ANPP-18750). Subject: Responses to NRC Questions 490.2 through 490.4.

Dear Sirs:

Subject: Palo Verde Nuclear Generating Station (PVNGS)
Units 1, 2 and 3
PVNGS Fuel Surveillance Commitments
File: 88-A-056-026

The purpose of this letter is to provide the current status of the ANPP fuel surveillance commitments and ANPP's plans for future fuel inspections. The three topics for discussion in this letter are: i) guide tube wear inspections, ii) fuel assembly shoulder gap measurements, and iii) visual examinations. Each of these three topics is discussed separately in the following paragraphs.

Guide Tube Wear Inspections

ANPP originally committed to measure guide tube wear during the first refueling outage of PVNGS Unit 1. This commitment is documented in USAR Section 4.2.4. The purpose of the measurements was to verify that the actual guide tube wear rates were conservative with respect to the limiting wear criterion. Subsequent to this original commitment, the NRC Staff informed ANPP that an inspection would also be required during the first refueling outage of PVNGS Unit 2. This implements a NRC Staff practice of requiring supplemental surveillance on the first two plants that incorporate new fuel design features (refer to Supplement No. 5 of the Palo Verde SER, Section 4.2.5).

8810260522 881019
PDR ADOCK 05000528
Q PDC

A047 3
1/0



14-00000

ANPP has completed the guide tube wear inspections for Units 1 and 2. The results of the inspections have been transmitted to the NRC Staff by References 1 and 2. The results of the inspections indicate that the fuel assemblies can be used for their design life without reaching the limiting wear criterion.

In summary, ANPP has fulfilled the commitments related to performing guide tube wear inspections and reporting the results to the NRC Staff. No future guide tube wear inspections are required.

Fuel Assembly Shoulder Gap Measurements

The requirement to perform fuel assembly shoulder gap measurements at PVNGS originated in Supplement 1 of the CESSAR SER, refer to Section 4.2.3.1(g). This original requirement would have required shoulder gap inspections prior to the second cycle of operation. With the issuance of the Unit 1 Operating License (NPF-34), this requirement was expanded to require shoulder gap inspections after each refueling until the NRC concurs that the shoulder gap is adequate for the design life of the fuel (refer to Supplement No. 8 of the Palo Verde SER, Section 4.2.4).

In accordance with the NRC requirements, ANPP has conducted shoulder gap measurements on selected fuel assemblies from Units 1 and 2 following the first cycle of operation. The results of the inspections have been provided to the NRC Staff via References 1 and 2. The inspection reports conclude that adequate shoulder gap margin exists for Cycle 2 operation.

Shoulder gap measurements will be performed on the Unit 1 fuel during the second refueling outage. Based on the Unit 1 inspection results, ANPP will address the need for future shoulder gap clearance measurements and whether the shoulder gap is adequate for the design life of the fuel. ANPP does not believe that the shoulder gap measurements need to be performed in each of the PVNGS units. Due to the identical nature of the fuel in all three PVNGS units, ANPP believes that the Unit 1 shoulder gap measurements will be adequate to predict fuel behavior in Units 2 and 3. For Units 2 and 3, the visual inspections conducted at each refueling outage are sufficient to detect fuel assembly damage due to insufficient shoulder gaps.

Additionally, ANPP would like to discontinue the practice of providing a report after every shoulder gap inspection. Instead, a report will be provided to the NRC Staff when ANPP is ready to close out this issue (and discontinue the measurements) or in the event that inadequate shoulder gap clearances are discovered.

100

1. The first part of the report is a general introduction to the subject of the study.

2. The second part of the report is a detailed description of the methods used in the study.

3. The third part of the report is a discussion of the results of the study.

4. The fourth part of the report is a conclusion of the study.

5. The fifth part of the report is a list of references.

6. The sixth part of the report is a list of appendices.

7. The seventh part of the report is a list of figures.

8. The eighth part of the report is a list of tables.

9. The ninth part of the report is a list of footnotes.

10. The tenth part of the report is a list of acknowledgments.

11. The eleventh part of the report is a list of abbreviations.

12. The twelfth part of the report is a list of symbols.

13. The thirteenth part of the report is a list of units.

14. The fourteenth part of the report is a list of definitions.

15. The fifteenth part of the report is a list of acronyms.

Visual Examinations

In response to NRC Question 490.3, ANPP committed to visually inspect a number of discharged fuel assemblies at each refueling outage (see Reference 3 and USAR Section 4.2.4). The inspection is conducted with underwater viewing equipment and is intended to detect gross problems of structural integrity, gross fuel rod failure, bowing, spacer grid strap damage, insufficient shoulder gap spacing, or crud deposition. ANPP will continue performing these visual examinations at each refueling outage.

SUMMARY

The previous discussion provides a summary of the future fuel inspection plans at PVNGS. The only change to previous commitments is in the area of shoulder gap measurements. ANPP believes that the modified inspection plan will provide the data necessary to ensure adequate shoulder gap clearances.

If you have any additional questions on this matter, please contact Mr. A. C. Rogers at (602) 371-4041.

Very truly yours,



D. B. Karner
Executive Vice President

DBK/BJA/pvk

cc: G. W. Knighton
M. J. Davis
J. B. Martin
T. J. Polich
A. C. Gehr

