

REGULATORY INFORMATION DISTRIBUTION SYSTEM (RIDS)

ACCESSION NBR: 8206150328 DOC. DATE: 82/06/11 NOTARIZED: NO DOCKET #
 FACIL: 50-315 Donald C. Cook Nuclear Power Plant, Unit 1, Indiana & 05000315
 50-316 Donald C. Cook Nuclear Power Plant, Unit 2, Indiana & 05000316
 AUTH. NAME AUTHOR AFFILIATION
 HUNTER, R.S. Indiana & Michigan Electric Co.
 RECIP. NAME RECIPIENT AFFILIATION
 DENTON, H.R. Office of Nuclear Reactor Regulation, Director

SUBJECT: Requests exemption from fire protection requirements, App R
 of 10CFR50.48, Sections III.G, III.J & III.O. Detailed
 reanalysis of safety sys & formal seismic re-evaluation
 required. Compliance schedule encl.

DISTRIBUTION CODE: A006S COPIES RECEIVED: LTR 1 ENCL 1 SIZE: 11
 TITLE: Fire Protection Information (After Issuance of OP. Lic.)

NOTES:

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INTERNAL:	ELD/HDS3		1	0	IE FILE	06	1 1
	NRR FIORAVANT07		2	2	NRR WAMBACH		1 0
	NRR/DE/CEB -09		2	2	NRR/DL DIR		1 1
	REG FILE -04		1	1	RGN3		1 1
EXTERNAL:	ACRS	11	3	3	LPDR	03	2 2
	NRC PDR	-02	1	1	NSIC	05	1 1
	NTIS		1	1			

1. The first part of the document is a header section containing the following information:

- Page Number: 1
- Date: 10/10/2010
- Time: 10:10:10
- Author: [Name]
- Subject: [Subject]

2. The second part of the document is a table with the following structure:

Item	Value
1	10/10/2010
2	10:10:10
3	[Name]
4	[Subject]

3. The third part of the document is a list of items:

- 1. [Item 1]
- 2. [Item 2]
- 3. [Item 3]
- 4. [Item 4]
- 5. [Item 5]
- 6. [Item 6]
- 7. [Item 7]
- 8. [Item 8]
- 9. [Item 9]
- 10. [Item 10]

4. The fourth part of the document is a paragraph of text:

The following information is provided for your reference:

- 1. [Item 1]
- 2. [Item 2]
- 3. [Item 3]
- 4. [Item 4]
- 5. [Item 5]
- 6. [Item 6]
- 7. [Item 7]
- 8. [Item 8]
- 9. [Item 9]
- 10. [Item 10]

three to eight million dollars a year.

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1. The first group of people who are not in the military are the people who are not in the military.

Abstract

1. 2. 3. 4. 5. 6. 7. 8. 9. 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. 533. 534. 535. 536. 537. 538. 539. 540. 541. 542. 543. 544. 545. 546. 547. 548. 549. 550. 551. 552. 553. 554. 555. 556. 557. 558. 559. 560. 561. 562. 563. 564. 565. 566. 567. 568. 569. 570. 571. 572. 573. 574. 575. 576. 577. 578. 579. 580. 581. 582. 583. 584. 585. 586. 587. 588. 589. 590. 591. 592. 593. 594. 595. 596. 597. 598. 599. 600. 601. 602. 603. 604. 605. 606. 607. 608. 609. 610. 611. 612. 613. 614. 615. 616. 617. 618. 619. 620. 621. 622. 623. 624. 625. 626. 627. 628. 629. 630. 631. 632. 633. 634. 635. 636. 637. 638. 639. 640. 641. 642. 643. 644. 645. 646. 647. 648. 649. 650. 651. 652. 653. 654. 655. 656. 657. 658. 659. 660. 661. 662. 663. 664. 665. 666. 667. 668. 669. 670. 671. 672. 673. 674. 675. 676. 677. 678. 679. 680. 681. 682. 683. 684. 685. 686. 687. 688. 689. 690. 691. 692. 693. 694. 695. 696. 697. 698. 699. 700. 701. 702. 703. 704. 705. 706. 707. 708. 709. 710. 711. 712. 713. 714. 715. 716. 717. 718. 719. 720. 721. 722. 723. 724. 725. 726. 727. 728. 729. 730. 731. 732. 733. 734. 735. 736. 737. 738. 739. 740. 741. 742. 743. 744. 745. 746. 747. 748. 749. 750. 751. 752. 753. 754. 755. 756. 757. 758. 759. 760. 761. 762. 763. 764. 765. 766. 767. 768. 769. 770. 771. 772. 773. 774. 775. 776. 777. 778. 779. 780. 781. 782. 783. 784. 785. 786. 787. 788. 789. 790. 791. 792. 793. 794. 795. 796. 797. 798. 799. 800. 801. 802. 803. 804. 805. 806. 807. 808. 809. 810. 811. 812. 813. 814. 815. 816. 817. 818. 819. 820. 821. 822. 823. 824. 825. 826. 827. 828. 829. 830. 831. 832. 833. 834. 835. 836. 837. 838. 839. 840.

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Figure 1 shows a schematic diagram of a 2D hexagonal lattice. The lattice is composed of solid black circles representing atoms. A central atom is labeled 'A'. To its right is an atom labeled 'B'. Above 'A' is an atom labeled 'C'. Below 'A' is an atom labeled 'D'. To the left of 'A' is an atom labeled 'E'. To the right of 'B' is an atom labeled 'F'. The lattice is bounded by a dashed line on the right. The top and bottom edges are labeled 'L' and 'R' respectively. The left edge is labeled 'T' and 'B' respectively. The right edge is labeled 'T' and 'B' respectively. The bottom edge is labeled 'L' and 'R' respectively.

Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The *Agrobacterium* strains were grown in the YEA medium for 24 h at 28°C. The cell concentration of the strains was adjusted to 10⁸ cells/ml. The cell suspension was mixed with the plant tissue and incubated for 24 h at 28°C. The plant tissue was then cultured on the selective medium. The transformation efficiency was determined as the number of transformants per 100 mg of plant tissue. The data are the mean values of three independent experiments.

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

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INDIANA & MICHIGAN ELECTRIC COMPANY

P. O. BOX 18
BOWLING GREEN STATION
NEW YORK, N. Y. 10004

June 11, 1982
AEP:NRC:0692B

Donald C. Cook Nuclear Plant Unit Nos. 1 and 2
Docket Nos. 50-315 and 50-316
License Nos. DPR-58 and DPR-74
Fire Protection - Appendix R Compliance

Mr. Harold R. Denton, Director
Office of Nuclear Reactor Regulation
U.S. Nuclear Regulatory Commission
Washington, D.C. 20555

Dear Mr. Denton:


In our May 10, 1982 letter (AEP:NRC:0692A) we committed to provide you a schedule for our program with respect to Section III.G of Appendix R. In the meantime we have selected and engaged a consultant, Engineering, Planning and Management, Inc. (EPM). With input from EPM and in conjunction with discussions with members of your staff, we have determined the need to seek schedular exemption from the requirements of 10 CFR 50.48 with respect to Sections III.G, III.J and III.O of Appendix R.

Please find attached to this letter the request for exemption. Exhibit A of the Attachment is the overall plan and schedule to fulfill our May 10, 1982 commitment.

We will keep you informed on the progress of our work by submitting preliminary interim reports on December 31, 1982 and June 30, 1983. We would be pleased to discuss the interim reports with your staff after they have had the opportunity to review them.

This document has been prepared following Corporate Procedures which incorporate a reasonable set of controls to insure its accuracy and completeness prior to signature by the undersigned.

Very truly yours,



R. S. Hunter
Vice President

/md

cc:(attached)

A006

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PDR ADDCK 05000315
F PDR

cc: John E. Dolan - Columbus
R. W. Jurgensen
W. G. Smith, Jr. - Bridgman
R. C. Callen
G. Charnoff
Joe Williams, Jr.
NRC Resident Inspector at Cook Plant - Bridgman

[illegible]

Attachment to AEP:NRC:0692B
Request For Exemption

Pursuant to 10 CFR 50.12(a), Indiana & Michigan Electric Company ("I&M") hereby requests from the Nuclear Regulatory Commission ("NRC") an exemption from the schedule requirements of 10 CFR 50.48 and Sections III.G., J., and O. of Appendix R to 10 CFR 50. for the Donald C. Cook Nuclear Plant Units 1 and 2. The specific provisions from which exemption is sought and support for the relief are set forth below.

I. Exemption with respect to Section III.G of Appendix R.

An exemption from 10 CFR 50.48(c) with respect to the requirements of Section III.G. of Appendix R is requested to extend to December 16, 1983 the date for the following:

1. Submittal of plans and schedules to achieve compliance with III.G.2 as required by Section 50.48(c)(5),
2. Filing additional exemptions from Section III.G. pursuant to Section 50.48(c)(6),
3. Submittal of design descriptions of alternative or dedicated shutdown systems to comply with Section III.G.3 as required by Section 50.48(c)(5) if such systems are determined to be necessary, and
4. The date from which the installation schedules established in Section 50.48(c)(2) and (3) are calculated.

BACKGROUND

Section 50.48 requires that plants such as the Cook Plant comply with the requirements of Section III.G., J. and O. of Appendix R. By submittal dated March 27, 1981, we stated our belief that the Cook Plant met those requirements. In support of this belief we described in detail the fire protection facilities and procedures already installed at the plant which we believed met the requirements of Section III.G. We received no response from the NRC taking issue with this submittal. In February/March of this year, we again looked at the requirements of Section III.G. in preparation for and in conjunction with a Special Team Inspection at the Cook Plant. Based on our review, we wrote to Mr. J. G. Keppler on March 30, 1982 indicating that we had some question concerning our conformance with a literal interpretation of Section III.G.

Since that time there has been considerable discussion of our degree of conformance with Section III.G. of Appendix R. On April 30, 1982, representatives from American Electric Power Service Corporation

(AEPSC) and I&M met with members of the NRC to explain why the Cook Plant should continue operating notwithstanding the NRC inquiries during the Special Team Inspection. As the NRC Staff minutes of that meeting reflect, "D.G. Eisenhut emphasized the concern of NRC over the safety of the plant and agreed with continued operation provided the licensee would respond to his specific direction". In response, I&M submitted two letters. The first letter summarized the presentation and commitments of the company at the April 30 meeting, including explanation of the basis for continued safe operation of the plant. The second letter set forth our near-term and long-term steps to assure that all of our fire protection commitments will be met in a manner consistent with NRC requirements in Appendix R. By these letters dated May 4, and May 10, 1982, and the actions reflected therein together with this June 11 submittal, I&M believes it has satisfactorily responded to the NRC concerns regarding (continued) safe operation of Cook Plant.

From the above discussions and our own review, it has now become clear to us that our original interpretation of Section III.G. was not correct and that the detailed reanalysis of safety systems (independent of the 1977-79 study preceding the 1979 SER) originally thought unnecessary, now must be undertaken. To assure that we do fully understand and correctly interpret the requirements of Appendix R in this reanalysis, we have taken two steps. First, we met with the Staff on May 28 1982 in a working meeting to review our current understandings and questions concerning the requirements of Section III.G. This meeting was very helpful clarifying our technical questions and refining our plan for resolution. Second, we have hired a consultant, Engineering, Planning and Management, Inc. (EPM) to assist us in our systems evaluation. EPM has had extensive experience with Appendix R and systems reviews.

JUSTIFICATION

Included as Exhibit A to this request for exemption is our program and schedule for Section III.G reanalysis and for determination of the required modification/exemption requests and actions I&M will perform. It is for the purpose of performing this program that we are seeking schedular exemption. We, together with EPM, have reviewed this program and schedule and believe that it is a workable schedule. We further believe that the NRC understands, based upon its experience with other utilities to date, the complexity of the tasks (which for reasons described above have only recently been instituted by I&M) and the commitment of time and human and financial resources required. The overall tasks required by this program are:

- 1) to analyze the Cook Plant systems required for safe shutdown; and then with that analysis to determine to what extent the plant's previously completed and approved fire protection modifications meet the requirements of Section III.G.,
- 2) to develop detailed technical justifications to support requests for specific exemptions from Section III.G. as I&M determines to be warranted

- 3) to identify modifications which may be necessary to achieve compliance with Section III.G.,
- 4) to develop plans and schedules for any modifications necessary to satisfy Section III.G.2, and,
- 5) to prepare and submit design descriptions for any alternative or dedicated shutdown system(s) to satisfy III.G.3, to the extent that such system(s) are determined to be necessary.

Because we are starting this program later than other utilities we can draw upon the experience that EPM has gained in previous work. In this connection we will conduct our review to the extent possible on a system-by-system basis, with problems and solutions being tentatively identified for each system as the study progresses. As described in Exhibit A there are five (5) major phases required in I&M's reassessment of the safety systems of the Cook Plant. The program represents a complex and intensive work effort on the part of I&M. Briefly, the phases are outlined as follows:

- 1) identify safe shutdown safety functions and performance goals,
- 2) tabulate the systems that are required to perform or support the performance of the safety functions and develop system success paths,
- 3) identify required components within the systems and support systems for each success path and tabulate and analyze circuits for their operation or those that can cause maloperation,
- 4) perform separation analysis by fire zone and prepare any necessary plans and schedules for modification,
- 5) prepare detailed report.

Since the evaluations for equipment location and shutdown requirements are performed on a system basis and the evaluation for compliance with III.G.2 is required to be on a fire area basis, the determination of compliance with Section III.G. for individual systems cannot begin until the first three phases identified above have essentially been completed. Further, the formulation of plans and schedules for modifications must be based on the results of these evaluations. Finally, analysis and tentative solutions for each of the examined systems must be continually correlated with systems subsequently analyzed to assure that the tentative solutions for previously identified problems remain valid and to identify and resolve new problems raised by the later analyses.

It also is essential to understand that based on our experience at the Cook Plant the design and installation of necessary modifications most probably will involve significant engineering and design problems which are much more difficult to accommodate in an operating nuclear power plant than during initial plant design and construction.

We project the man-hours necessary to perform the program described in Exhibit A to be approximately 55,000 man-hours. The man power breakdown by the phases of the program is as follows:

- Phase 1 - approximately 5,160 man-hours
- Phase 2 - approximately 3,310 man-hours
- Phase 3 - approximately 17,850 man-hours
- Phase 4 - approximately 24,310 man-hours
- Phase 5 - approximately 4,370 man-hours

Given this large manpower requirement, the finite number of qualified personnel available, and the need to sequence elements of the programs, we believe our schedule for which we seek an exemption is prudent and reasonably achievable. As reflected in general industry experience we do not believe that our program time requirements can be significantly reduced from the year and a half and more that has been required by other utilities. The requested extension in schedule requirements will not be detrimental to public health and safety. As indicated above, in reply to an NRC staff request to review the Cook Plant's continuing ability to safely shutdown, I&M believes it has fully responded to the concerns expressed by the staff and further that Cook Plant can be safely shutdown.

II. Exemption with respect to Section III.J. of Appendix R.

An exemption from 10 CFR 50.48(c) with respect to the requirements of Section III.J. of Appendix R is requested to extend to December 31, 1983 the following:

1. The date for submittal of new plans and schedules to achieve compliance with III.J. as requested by Section 50.48(c)(5).
2. The date from which the installation schedules established in Section 50.48(c)(2) and (3) are calculated.

I&M's ongoing program to assure compliance with Section III.J. of Appendix R is set forth in our letters of May 4 and 10, 1982 referenced above. As these letters reflect, I&M presently satisfies the requirements of III.J. in areas identified to date as requiring emergency lighting. In addition, I&M's program is designed to achieve complete replacement of the existing emergency lighting units with new units by December 31, 1982. However, this ongoing effort does not account for our reanalysis for Section III.G., which may, in fact, necessitate the further installation of emergency lighting units in new areas. The extent to which new units may be required will not be known until the III.G. reanalysis is essentially complete. After identification of any need for additional lighting units, I&M will require some additional time to prepare required plans and schedules to submit to the NRC and to purchase and install the additional units. I&M believes these tasks reasonably and safely can be accomplished by December 31, 1983.

III. Exemption with respect to Section III.0 of Appendix R.

An exemption from 10 CFR 50.48(c) with respect to the requirements of Section III.0 of Appendix R is requested to extend to December 31, 1982 the date for the following:

1. Submittal of plans and schedules, if any are necessary, to achieve compliance with III.0 required by Section 50.48(c)(5),
2. Filing additional exemptions from Section III.0 pursuant to Section 50.48(c)(6),
3. The date from which the installation schedules established in Section 50.48(c)(2) and (3) are calculated.

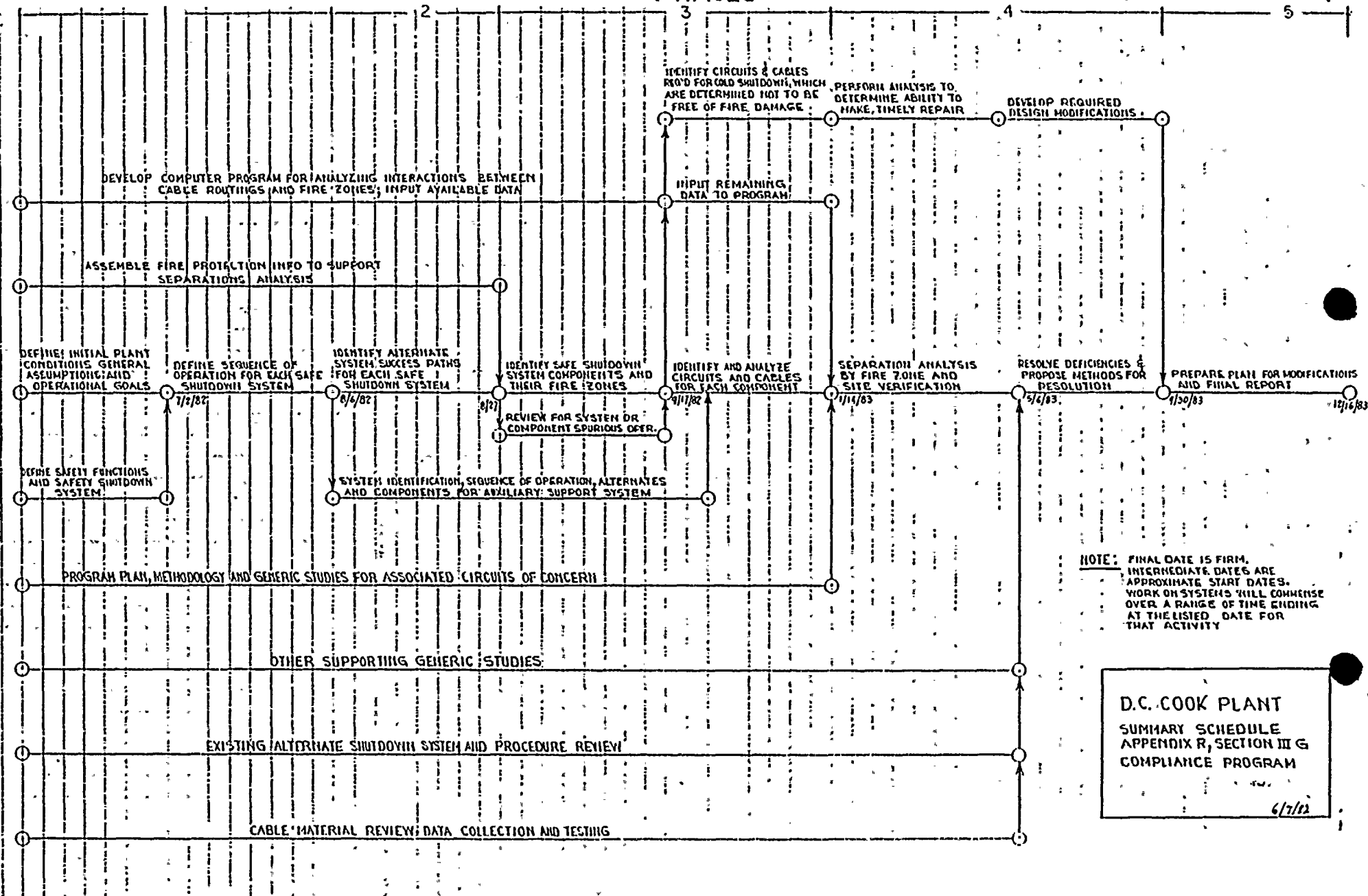
In our original review of Section III.0 we reviewed the Engineering Design Change package for the installation including the required engineering details and Westinghouse Electric Corporation's report of the engineering analysis for design basis conditions. Recent discussions have indicated to us the desirability and need to conduct a formal seismic re-evaluation. Related to this, at our May 28, 1982 meeting with the NRC, we first recognized that a complete Section III.0 analysis should include an assessment of the RCP motor lube oil system.

In recognition of the above, I&M is undertaking an evaluation of the seismic capability of the Reactor Coolant Pump (RCP) motor lube oil system. Westinghouse Electric Corporation, the RCP motor supplier, is assisting in this evaluation. Further, as indicated in our May 4, 1982 and May 10, 1982 letters I&M is re-evaluating the seismic characteristics of the existing oil drainage piping and collection tank. In this latter evaluation we will inspect the oil drainage piping during the early part of the respective refueling outages of each Unit. If any corrections to the oil drainage piping system are necessary, they will be made promptly. The Unit 1 outage is currently scheduled for June-August, 1982 and the Unit 2 outage is currently scheduled for October-December, 1982.

Based on these evaluations we may seek an exemption for sizing of the existing tank, and/or the need for seismic resistance for the piping and tank. We also may submit plans and schedules for modifying the existing oil collection system. Alternatively, we may conclude that we comply with Section III.0. In light of the schedule for the refueling outages and need for input from Westinghouse Electric Corporation, I&M estimates that it will require until December 31, 1982 to determine and execute the appropriate course of action. Accordingly it is for this period that an exemption is requested with respect to Section III.0. The requested extension in schedule requirements will not be detrimental to public health and safety. The present installed system will prevent a lube oil fire since the Westinghouse portion of the design is capable of withstanding design basis seismic conditions thereby preventing lube oil from contacting hot surfaces.

PHASES

EXHIBIT A Page 1 of 4



A detailed plan and schedule has been developed by I&M to support the program used to determine on a fire zone by fire zone basis the following:

- o The extent of Cook Plant's existing compliance with the requirements of Appendix R, Section III.G.
- o The technical justifications necessary to support requests for any exemptions from Section III.G, which I&M believes to be technically justified and warranted.
- o The specific modifications necessary to achieve compliance or support exemption requests for Section III.G.
- o The system design descriptions and electrical drawings necessary for new alternative or dedicated shutdown systems designed to Section III.G.3.
- o The plans and schedules necessary for plant modifications planned to satisfy the requirements of Section III.G.2.

The program tasks necessary to achieve the above determinations are complex and represent an intensive work effort on the part of I&M. To the extent possible, I&M will perform these tasks in parallel and will coordinate all efforts to ensure that information is properly developed and documented. AEPSC has created a task force within the company, with representatives from each discipline which will be performing program activities. This task force is charged with coordinating the company's overall efforts. All activities are under the direct responsibility of a task force representative. AEPSC has also retained a consultant, Engineering Planning and Management, Inc. (EPM), to act in an advisory and review capacity. EPM will ensure that the I&M analysis is completed as expeditiously as possible while maintaining the highest standards for technical competence and accuracy. EPM will also support AEPSC's technical efforts as appropriate, including detailed analytical fire hazards analysis.

Exhibit A page 1 is a simplified diagram identifying the major blocks of program activities. The following information describes the various tasks and scope of efforts within these major activity blocks. These activities will be pursued and modified as necessary to resolve Section III.G problems.

PHASE 1

The initial program activity is the identification of the safe shutdown safety functions and performance goals which are required for hot and cold shutdown at the Cook Plant. The initial plant conditions

and general assumptions to be used for the analysis will be defined at this time. Operational goals and assumptions and plant and systems stability requirements will also be identified. Items such as cooldown rate, operator actions, loss of off-site power, etc. will be addressed during this phase. Also identified will be detailed fire zone descriptions, boundary identifications and fire zone fire protection features.

PHASE 2

The systems that are required to perform or support the performance of each of the safety functions identified in the previous phase will be tabulated. Assumptions and limitations, with respect to the use of these systems and their supporting features will be outlined and the operational sequences for the use of these systems to achieve hot and cold shutdown will be developed. Approximate time-frames for the sequence of system operations will be identified as needed. The output of this phase will be the identification of all system success paths available for the performance of each of the required safety functions to achieve hot and cold shutdown. As appropriate, systems and operational information will be reviewed and approved by both the AEPSC engineering and I&M operations personnel.

PHASE 3

The initial activity in this phase will be the identification of safe shutdown system (SSS) components required to perform the safe shutdown functions for each of the identified success paths. Initial assumptions with respect to component availability, fire zone location and required supporting functions will be tabulated for each component. System-level reviews will be conducted to identify any components or systems which spurious operation would defeat the functioning of individual success paths, the safe shutdown system components, or violate the assumptions of the analysis. The high-low pressure reactor coolant system interface requirements will be included as part of this system level spurious operation review.

For each of the components previously identified, all circuits required to support component operation, or which would cause maloperation of the SSS components, will be tabulated. Based on these circuit identifications, all cables that contain these circuits will be identified and an exact determination of location and routing of these cables by fire zone will be performed. A failure modes and effects analysis (FMEA) will be conducted on the circuits identified to determine the effect of spurious operation of non-SSS circuits and interlocks on the operation of these SSS components. For non-SSS cables with unacceptable consequences, additional location and routing information will be developed. Generic studies will be completed to verify the acceptability of the existing electrical protection and

coordination for power circuits at Cook Plant. The output of this phase of activities will be the tabulation of the exact location of safe shutdown system circuits and cables and associated circuits of concern and their cables.

This tabulation will be used as the input to the circuit separation analysis performed in phase 4.

PHASE 4

A separation analysis of components and cables will be performed and an identification by fire zone of areas of compliance and non-compliance to the requirements of Section III.G.2 will be developed. Plant walkdowns, fire zone by fire zone, will be performed to verify the accuracy of the physical drawings and conclusions reached; including the extent of intervening combustibles and the adequacy of the suppression and detection methods available. For deficiencies identified, a proposed method of resolution will be selected. As necessary, detailed fire hazards analysis, modification design packages and technical substantiations will be developed for all resolutions proposed. Plans and schedules for modifications, if required, will be developed. Detailed drawings and descriptions of any alternative or dedicated shutdown system, if required, will also be developed. For equipment, circuits and cables required for cold shutdown, which are determined not to be free from fire damage, analysis will be performed to assure that adequate personnel, materials and procedures will be available in a timely manner to support the repair of this equipment and to achieve cold shutdown, or, alternatively, design modifications will be developed.

PHASE 5

A detailed report, describing all aspects of the activities outlined above will be prepared. The report will also contain the pertinent technical information necessary to support exemption requests, and the drawings necessary to permit the NRC to review any new alternative or dedicated shutdown system(s) designed. This report will be prepared reviewed, approved and submitted to the NRC by December 16, 1983.

