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SUBJECT: Forwards ASME Section XI, Div 1, Code Case N-514, "LTOP," in support of 930408 exemption request.

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MA-4



**FPL**

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L-93-115  
10 CFR \$50.12  
10 CFR \$50.60

U.S. Nuclear Regulatory Commission  
Attention: Document Control Desk  
Washington, D.C. 20555

**APR 22 1993**

Gentlemen:

Subject: Turkey Point Units 3 and 4  
Docket Nos. 50-250 and 50-251  
ASME Code Case N-514

The purpose of this letter is to provide to the staff the attached American Society of Mechanical Engineers (ASME) Section XI, Division 1, Code Case N-514, "Low Temperature Overpressure Protection" referenced by Florida Power & Light Company (FPL) in a recent exemption request for Turkey Point Units 3 and 4.

By letter L-93-093, dated April 8, 1993, FPL requested an exemption from certain requirements of 10 CFR \$50.60, "Acceptance criteria for fracture prevention measures for lightwater nuclear power reactors for normal operation" for Turkey Point Units 3 and 4. The exemption is requested by FPL to allow the application of ASME Code Case N-514 in determining the acceptable low temperature overpressure protection (LTOP) Overpressure Mitigating System (OMS) setpoint for Turkey Point Units 3 and 4.

ASME Code Case N-514 allows setting the OMS actuation setpoint such that the LTOP acceptance curves are not exceeded by more than 10%. The ASME Working Group on Operating Plant Criteria (WGOPC) developed code guidelines to define LTOP limits that will avoid certain unnecessary operational restrictions, provide adequate margins against failure, and reduce the potential for unnecessary activation of pressure relieving devices used for LTOP. Additional details of FPL's request to use Code Case N-514 are included in FPL letter L-93-093.

If you have any questions regarding this information, please contact us.

Very truly yours,

T. F. Plunkett  
Vice President  
Turkey Point Nuclear

TFP/ejw

Attachment

cc: Stewart D. Ebnetter, Regional Administrator, Region II, USNRC  
Ross C. Butcher, Senior Resident Inspector, USNRC, Turkey  
Point Plant

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9304270134 930422  
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L-93-115  
Attachment

ASME Code Case N-514  
Low Temperature Overpressure Protection  
Section XI, Division 1





The American Society of  
Mechanical Engineers

Codes and Standards

212 605-3333  
212 605-8750 Fax

345 East 47th Street  
New York, NY 10017-2392

March 10, 1993

E.L. Anderson  
Florida Power & Light  
P.O. Box 14000  
Juno Beach, FL 33408-8420

Subject: Section XI, Code Case N-514, Low Temperature Overpressure  
Protection

Reference: Your Letter of February 25, 1993

Dear Mr. Anderson:

In response to your letter of February 25, 1993 to Gerry Eisenberg regarding the status of Code Case N-514 attached is a copy of the Case. The Code Case has been approved by the Boiler and Pressure Vessel Main Committee and the Board on Nuclear Codes and Standards and should be published in Supplement 4 (expected publication by the middle of May 1993).

Yours truly,

A handwritten signature in cursive script that reads "Steve Weinman".

Steve Weinman  
Assistant Secretary  
Boiler & Pressure Vessel Committee  
(212) 605-4720



## Annex 92-373

Case N-514

ISI 92-10  
1 of 1Low Temperature Overpressure Protection  
Section XI, Division 1

(N-20)

Inquiry: Section XI, Division 1, IWB-3730, requires that during reactor operation, load and temperature conditions be maintained to provide protection against failure due to the presence of postulated flaws in the ferritic portions of the reactor coolant pressure boundary. For those plants having low temperature overpressure protection (LTOP) systems, what load and temperature conditions under IWB-3730 may be used to provide protection against failure during reactor start-up and shutdown operation due to low temperature overpressure events that have been classified as Service Level A or B events?

Reply: It is the opinion of the Committee that for those plants having LTOP systems the following load and temperature conditions may be used to provide protection against failure during reactor start-up and shutdown operation due to low temperature overpressure events that have been classified as Service Level A or B events. LTOP systems shall be effective at coolant temperatures less than 200°F or at coolant temperatures<sup>1</sup> corresponding to a reactor vessel metal temperature<sup>2</sup> less than  $RT_{NDT} + 50^{\circ}\text{F}$ , whichever is greater. LTOP systems shall limit the maximum pressure in the vessel to 110% of the pressure determined to satisfy Appendix G, G-2215.

<sup>1</sup> The coolant temperature is the reactor coolant inlet temperature.

<sup>2</sup> The vessel metal temperature is the temperature at a distance one-fourth of the vessel section thickness from the inside surface in the vessel beltline region.  $RT_{NDT}$  is the highest adjusted reference temperature for weld or base metal in the beltline region at a distance one-fourth of the vessel section thickness from the vessel inside surface, as determined by Regulatory Guide 1.99, Rev. 2.

ApplicabilityFrom1986 Edition with the  
1987 AddendaThrough1992 Edition with the  
1992 Addenda





Country	1950	1960	1970	1980	1990	2000	2010	2020	2030	2040	2050
Japan	7.0	7.5	8.0	9.0	10.0	11.0	12.0	13.0	14.0	15.0	16.0
Germany	10.0	10.5	11.0	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0
France	11.0	11.5	12.0	13.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0
Italy	12.0	12.5	13.0	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0
Spain	13.0	13.5	14.0	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0
Sweden	14.0	14.5	15.0	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0
Belgium	15.0	15.5	16.0	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0
United Kingdom	16.0	16.5	17.0	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0
Canada	17.0	17.5	18.0	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0
United States	18.0	18.5	19.0	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0
China	19.0	19.5	20.0	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0
India	20.0	20.5	21.0	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0
South Africa	21.0	21.5	22.0	23.0	24.0	25.0	26.0	27.0	28.0	29.0	30.0
South Korea	22.0	22.5	23.0	24.0	25.0	26.0	27.0	28.0	29.0	30.0	31.0
Poland	23.0	23.5	24.0	25.0	26.0	27.0	28.0	29.0	30.0	31.0	32.0
U.S.S.R.	24.0	24.5	25.0	26.0	27.0	28.0	29.0	30.0	31.0	32.0	33.0
Uganda	25.0	25.5	26.0	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0
Kenya	26.0	26.5	27.0	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0
Malawi	27.0	27.5	28.0	29.0	30.0	31.0	32.0	33.0	34.0	35.0	36.0
Zambia	28.0	28.5	29.0	30.0	31.0	32.0	33.0	34.0	35.0	36.0	37.0
Sierra Leone	29.0	29.5	30.0	31.0	32.0	33.0	34.0	35.0	36.0	37.0	38.0
Guinea	30.0	30.5	31.0	32.0	33.0	34.0	35.0	36.0	37.0	38.0	39.0
Senegal	31.0	31.5	32.0	33.0	34.0	35.0	36.0	37.0	38.0	39.0	40.0
Ghana	32.0	32.5	33.0	34.0	35.0	36.0	37.0	38.0	39.0	40.0	41.0
Yemen	33.0	33.5	34.0	35.0	36.0	37.0	38.0	39.0	40.0	41.0	42.0
Algeria	34.0	34.5	35.0	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0
Libya	35.0	35.5	36.0	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0
Iran	36.0	36.5	37.0	38.0	39.0	40.0	41.0	42.0	43.0	44.0	45.0
Turkey	37.0	37.5	38.0	39.0	40.0	41.0	42.0	43.0	44.0	45.0	46.0
Iran (Islamic Rep.)	38.0	38.5	39.0	40.0	41.0	42.0	43.0	44.0	45.0	46.0	47.0
China (People's Rep.)	39.0	39.5	40.0	41.0	42.0	43.0	44.0	45.0	46.		

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. 84