



Pratt & Whitney

A United Technologies Company

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August 19, 2013

U.S. Nuclear Regulatory Commission
Attn: Document Control Desk
Washington DC, 20555-0001

RE: License SMB-151, Docket Number 040-00791
NRC Inspection Report No. 040-00791/2012-002
"Reply to Notice of Alleged violations"

Dear Sir/Madam:

On August 8, 2012, the NRC conducted a safety inspection which was limited to a review of decommissioning activities related to Building 10 at our Middletown, Connecticut site. [1] Additional information provided in correspondence by the Pratt & Whitney (PW) Site Manager dated January 20 [2], July 18 [3] [4], and December 17, 2012 [5], and during the telephone conversations on January 7 and February 12, 2013, between the Site Manager, Radiation Safety Officer and NRC were also examined as part of the inspection. The findings of the inspection were discussed with the Site Manager and Radiation Safety Officer at the conclusion of the inspection. The associated report was issued by the NRC on July 22, 2013 and included notice of two Severity Level IV alleged violations and notification that a third alleged violation was under consideration. The two alleged violations of NRC requirements were identified during an NRC inspection conducted on August 8, 2012; January 7 and February 12, 2013. These alleged violations were for the survey of Building 10 in 2000 and disposal of the flooring in 2004. Because the two alleged violations are closely linked, they were considered as a single issue by the NRC.

PW strives to be a good corporate citizen and takes any alleged violation of a regulation very seriously. Over the last several decades PW has worked successfully with the NRC to decommission facilities and amend its NRC license to reduce the amount of NRC licensed activities company-wide. These have included facilities in Manchester, CT (1993), Southington, CT (1994) and Meriden, CT (1996) as well as Rocky Hill, CT in 2001 and North Haven, CT in 2002. PW is very disappointed that alleged violations of this severity level are being issued after a compliant and successful decommissioning program has been established and executed and after striving to work with the NRC to ensure compliance on these projects.

There are factors PW would like to have taken into consideration with regard to the severity level and any other potential additional alleged violations associated with the Building 10 removal from the NRC license. [6]

PW has submitted a 10 CFR 20.1402 MARSSIM compliant Final Status Survey of the Building 10 concrete pad [7] along with a request to the NRC to amend the license and remove the Building 10 foot print from its license [8] in accordance with 10 CFR 30.36 and 10 CFR 40.42. Approval of the submittal will complete the Building 10 decommissioning and license termination activities associated with these alleged violations.

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The effort to reduce the footprint of buildings, areas, and facilities has been on-going for decades and PW has worked with the NRC to complete 20.1402 compliant final status surveys and license amendments in the years following the Building 10 survey and demolition. Our records indicate that in 1983 SMB-151 covered facilities in East Hartford, Middletown, Rocky Hill, North Haven, Manchester, Southington, CT as well as North Berwick, Maine. Decommissioning activities to reduce the footprint of facilities under SMB-151 were in progress from 1992 to 1996 prior to the Building 10 project.

PW had a successful track record of working with the NRC to decommission facilities and amend the license in the years preceding the Building 10 survey conducted in 2000. PW also completed 20.1402 compliant surveys and license amendments in 2001 and 2002 after the time of the alleged violation. PW has demonstrated the capability to successfully manage and conduct compliant final status surveys and facility license terminations.

The first alleged violation is for failure to implement 20.1402 which was part of the revised processes and requirements of 10 CFR Part 20, 30, 40, 50, 51, 70 and 72 that was published in the Federal Register on July 21, 1997 as the Radiological Criteria for License Termination. [9] This regulation became effective on August 20, 1997. However, licensees were allowed to defer rule implementation until August 20, 1998. The final rule guidance published in the Federal Register and in 20.1401 contains language that could have led small scope licensees who were engaged in long term efforts to decommission facilities to believe that the ongoing license termination activities were exempted from the new requirements of 20.1401, 20.1402 and 20.1403. The guidance published in the Federal Register promulgating the changes to the Federal Regulation [9] contain criterion that exempted licensees who had submitted and received Commission approval on a license termination plan (LTP) or decommissioning plan that was compatible with the SDMP Action Plan criteria.

The original 1989 version of Regulatory Guide 3.65 Standard Format and Content of Decommissioning Plans for Materials Licensees [10] was in place throughout the Building 10 survey and demolition process and was not revised until May of 2008. The current revision of the regulatory guide and the version in effect at the time of these alleged violations does not require small, low risk licensees like Pratt and Whitney to submit a decommissioning plan to the NRC. Many, like PW, have no license condition requiring a decommissioning plan. PW had already completed activities using final status survey methodologies approved by the NRC prior to the new 10 CFR 20 subpart E becoming a requirement and no submittal of a decommissioning plan or pre-authorization of the survey methodologies was required by 30.36 or 40.42. The guidance in Regulatory Guide 3.65 at the time of these alleged violations indicated that NRC involvement and approval of decommissioning plans was limited to large facilities with radioactive materials that could pose a significant hazard during decommissioning.

NUREG-1575 Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM) [11] was not published until December of 1997. As noted in the Errata and Addenda section of the NUREG, many comments and questions followed the initial release of MARSSIM and these were not addressed until revision 1 was published in August of 2000. There was significant confusion in the industry regarding MARSSIM implementation until this revision was released.



PW contracted performance of the Building 10 unrestricted release survey with a company who had successfully executed surveys accepted by the NRC in the past as part of its pre-existing and on-going decommissioning efforts. The previous surveys were performed in accordance with NUREG-1549. [12] The activities that ensued in this time frame were;

- June 20, 2000 - July 28, 2000 - Building 10 decommissioning activities commenced, including sampling and radiological measurements.
- August 9, 2000 - Contractor finalizes the Pratt and Whitney Middletown Building 10 decommissioning report.
- August 2000 - MARSSIM (NUREG 1575 Rev. 1) was published.

An email [13] from the contractor who performed the building 10 Survey in 2000, indicates that they believed as late as 2012 that MARSSIM requirements did not take effect until the August 2000 revision of NUREG-1575 was published.

PW decommissioning activities subsequent to the August 2000 clarifications in NUREG-1575 were performed in accordance with MARSSIM requirements. [11] Emails between PW personnel and the consultant that performed the Building 10 survey in 2000 also indicate that after the NUREG-1575 revision in 2000, they understood it was in effect and were planning MARSSIM compliant surveys for the Rocky Hill release from SMB-151. [14] An email from July 27, 2001 also shows that PW management intended to complete the decommissioning of the Middletown facility and remove it from the SMB-151 license by the 4th quarter of 2001. [15]

In summary, the pertinent regulatory guidance at the time of these alleged violations did not indicate that a decommissioning plan was required or that NRC prior approval of the survey methodologies and release was required for a small materials licensee like PW. The Regulatory Guide did not require MARSSIM methodologies to be used nor was prior submittal and approval of Final Status Survey Plans required by the NRC even for large facilities with significant hazards. NRC review of Final Status Survey data is performed at the end of the decommissioning process in accordance with 40.42 when the Form 314 is submitted to amend the license. The language in the Federal Register and in 20.1401 implied that licensees such as PW, who were actively and successfully completing license terminations with the NRC, were exempted from the new provisions of 10 CFR 20.1401 and 20.1402.

While Regulatory Guides do not supersede requirements in applicable Federal Regulations such as the new 10 CFR 20 Subpart E requirements established in 1997, there is no requirement in 20.1402 to use the MARSSIM NUREG-1575 and subsequent evaluation of multiple scenarios have demonstrated that the dose criterion of 20.1402 was in fact met. PW believes that given the regulatory guidance at the time and the challenges encountered by the NRC and licensees in implementing the 1997 radiological criteria for license termination, the circumstances that led to these alleged violations are excusable.

PW would like to stress that the 25 mrem in a year license termination criteria of 20.1402 was met for Building 10. These alleged violations did not result in failures to adequately protect workers, the public, or the environment and industry standards of care for protection of the workers, public and environment were met throughout the Building 10 decommissioning and license termination process. As noted in the NRC Inspection Report, [1] the quantity of licensed



material remaining in Building 10 from 2000 through 2004 was minimal and met the 25 millirem in a year dose criteria specified in 10 CFR 20.1402 even under the additional scenarios analyzed by the NRC. This demonstrates that if license termination for Building 10 had been pursued at the time, as was planned, all exposure scenarios would have supported releasing Building 10 from the license [6] and there would have been no radiological restrictions on the disposal of the material. Subsequent evaluations also indicate that the “less than a few millirem” criteria used by the NRC as a basis for approval of alternate disposals under 10 CFR 20.2002 would also have been met.

In summary, these alleged violations did not result in any adverse impact on the health and safety of the workers, members of the public or the environment.

The inspection report [1] issuing the alleged violations identified four items to which PW is required to respond. The response to the alleged violations is presented below.

Item 1 - Reason for Alleged Violation

The root cause for the alleged violations is the differing interpretation of the requirements for decommissioning and the timing of the MARSSIM revisions. This led to inadequate contractor oversight to ensure the proper survey methodologies were used in accordance with 10 CFR 20.1402. If the license amendment request had been submitted to the NRC in 2000 or 2001 as planned and had considered alternate scenarios that demonstrated compliance with the 20.1402 dose criterion, as the subsequent NRC analysis did [1], Building 10 materials would likely have been removed from the license prior to 2004.

Item 2 - Corrective Steps Completed

As noted above, PW has successfully completed decommissioning and license termination on facilities under SMB-151 since the initial alleged violation occurred in 2000. The following procedures were revised or put in place since these alleged violations occurred:

1. EH AP 22.00.12 Rev. 9 Radiation Safety Program, July 23, 2012 – Revised to better define responsibilities and requirements for the Radiation Safety Program.
2. PW-MCOEHS-5009, Rev. 0 Standard Work Instructions - Agency Submittals, October 29, 2008 – Established to define the responsibilities and process for agency notifications and reporting.
3. PW-MCOEHS-5017 Rev. 0 Standard Work Instructions – Passport Policy, October 22, 2008 established to provide instructions for East Hartford and Middletown Site Environmental Health and Safety (EHS) professionals on when to use the Passport Policy. Passport is a formal, gated review process applied to significant business decisions at key-points within the project or process timeline that verifies the feasibility or accomplishment of performance or other key deliverables against the business requirements. Passport is applied to key processes and services created, managed or delivered by EHS.



Item 3 - Corrective Steps to be Completed

PW will revise EH AP 22.00.12 Radiation Safety Program to prevent any recurrence of similar issues. The revision will contain guidance to ensure compliance with 30.36, 40.42 and 10 CFR 20 Subpart E and to clarify that materials associated with facilities that have undergone Final Status Survey remain licensed materials until the license termination is approved under 30.36(k) or 40.42(k).

Item 4 - Full compliance

PW has successfully completed fully compliant decommissioning license termination activities since the date at which the initial alleged violations occurred. EH AP 22.00.12 will be revised by October 20, 2013.

PW will continue to work closely with the NRC to ensure any remaining activities necessary to completely terminate the SMB-151 license are compliant with all applicable regulations and meet NRC expectations and the industry standard of care to protect workers, the public and the environment. PW would like to extend an offer to meet with the NRC to discuss the events associated with the alleged violations and ensure we are aligned with NRC requirements as we pursue the decommissioning and release of the Middletown and East Hartford facilities from the license.

References

- [1] "NRC Inspection Report IR 04000791-12-002, on 8/8/12 - 2/12/13, Pratt & Whitney, Middletown, CT, and Notice of Alleged violation, July 22 2013 ML13203A077".
- [2] "United Technologies Corporation, Notification Ltr. Dated January 20, 2012 ML12025A297".
- [3] "United Technologies Corp, 04000791-12-002, Re Updated Schedule July 18 2012 ML13043A264".
- [4] "United Technologies Corp., Amendment Request Letter Dated July 18, 2012.ML12213A111".
- [5] "United Technologies Corporation, Concrete Pad Preliminary Survey Results Submitted by Email on December 17, 2012".
- [6] "NRC Materials License SMB-151, United Technologies Corporation Pratt and Whitney, NRC Form 374 Amendment No. 18, August 9, 2010 Issued by NRC January 11, 2011".
- [7] "United Technologies Corp., Amendment Request Ltr. Dated 02/18/2013. Ascension No. ML13063A520".
- [8] "UTC Letter to NRC Dated June 19, 2013- License No. SMB-151 (Expiration Date: 01/31/2021) & NRC Letter of Correspondence Addressed to Renee Welsh of Pratt & Whitney Dated May 23, 2013".
- [9] "Federal Register, Vol. 62, No. 139, Radiological Criteria for License Termination 10 CFR Parts 20, 30, 40, 50, 51, 70 and 72, Nuclear Regulatory Commission, Final rule., Monday, July 21, 1997,"
<http://www.gpo.gov/fdsys/pkg/FR-1997-07-21/pdf/97-17752.pdf>.



- [10] "Regulatory Guide 3.65 Rev. 0, Standard Format and Content of Decommissioning Plans for Materials Licensees August 1989 ML003739878".
- [11] "NUREG-1575 Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM)".
- [12] "NUREG 1549 Decision Methods for Dose Assessment to Comply with Radiological Criteria for License Termination July 1998".
- [13] "Email from Contractor to UTC RSO Regarding Effective Date of MARSSIM Sent January 30, 2012".
- [14] "Email Discussing Decommissioning of Rocky Hill and North Haven Dated July 30, 2001".
- [15] "Email Assigning Action Items To Update SMB-151 License Dated July 27, 2001".

Sincerely,

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