

**Performance Materials and Technologies**

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September 16, 2015

UPS / Next Day Air

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REFERENCES:        1)     Docket No. 40-3392, License No. SUB-526  
                          2)     NRC Generic Letter 2015-01, Treatment of Natural  
   Phenomena Hazards in Fuel Cycle Facilities, ML14328A029

SUBJECT:     HONEYWELL METROPOLIS WORKS' RESPONSE TO NRC GENERIC  
                         LETTER 2015-01, "TREATMENT OF NATURAL PHENOMENA HAZARDS  
                         IN FUEL CYCLE FACILITIES"

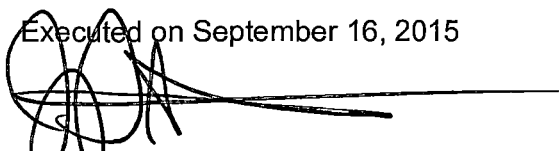
Pursuant to NRC Generic Letter 2015-01, "Treatment of Natural Phenomena Hazards in Fuel Cycle Facilities" [2], Honeywell Metropolis Works is providing information to demonstrate compliance with regulatory requirements and license conditions regarding the treatment of natural phenomena events.

Please note that Attachment III, included in this submittal, contains security-related sensitive information that shall be withheld from public disclosure under 10 CFR 2.390, "Public inspections, exemptions, requests for withholding."

I declare under penalty of perjury that the foregoing is true and correct.

If you have any questions, please contact me at (618) 524-2111, or Mark Wolf, Nuclear Compliance Director, at (618) 309-5013.

Executed on September 16, 2015



Jim Pritchett  
Plant Manager

Attachments: 3

cc:     Regional Administrator  
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NIMS833

**ATTACHMENT I**

**INFORMATION**

IN SUPPORT OF HONEYWELL METROPOLIS WORKS'  
RESPONSE TO NRC GENERIC LETTER 2015-01, "TREATMENT OF NATURAL  
PHENOMENA HAZARDS IN FUEL CYCLE FACILITIES"

# ATTACHMENT I

## INFORMATION

### IN SUPPORT OF HONEYWELL METROPOLIS WORKS' RESPONSE TO NRC GENERIC LETTER 2015-01 "TREATMENT OF NATURAL PHENOMENA HAZARDS IN FUEL CYCLE FACILITIES"

#### Background

In May 2012, NRC staff performed a Temporary Instruction inspection (TI 2600/015) [3] at Honeywell Metropolis Works related to the agency's "post-Fukushima" nuclear facilities assessment effort. This TI evaluated the adequacy of and compliance to the facilities seismic and high wind/tornado license design bases and emergency response plan. Subsequent to the TI, a Confirmatory Order (EA-12-157) [4] was issued on October 15, 2012, directing Honeywell to reassess the facility's design safety basis for seismic and high wind/tornado external event risks. The Confirmatory Order also documented Honeywell's agreement to implement certain corrective actions prior to restarting operations.

In response to the TI findings and Confirmatory Order Honeywell developed the Safety Basis and Corrective Action Plan (SBCAP) [5] implementing significant modifications to plant structures, systems and components that met or exceeded NRC risk performance requirements and provided reasonable assurance of public health and safety. The SBCAP provided specific details pertaining to Honeywell's seismic and high wind/tornado safety design bases, associated risk analyses and risk mitigation actions.

The NRC staff reviewed the information in Honeywell's SBCAP and arrived, in part, to the following conclusions documented in the Technical Evaluation Report (TER) [6]:

- "The staff finds Honeywell's use and application of a consequence-likelihood risk matrix adequate to demonstrate that the risk levels associated with the proposed modifications to protect against seismic and tornado missile events are acceptable.
- The staff finds that Honeywell's approach to determining the facility risk levels is consistent with accepted ISA methods and guidance. Further, the staff finds that the risk levels presented by the facility, under credible seismic and tornado missile events, are acceptably low and consistent with the risk levels at other operating fuel cycle facilities.
- The staff concluded that the modifications to the facility documented in the SBCAP provide reasonable assurance of adequate protection to workers and public health and safety under credible seismic and tornado missile events."

Based on the review, the staff found that "Honeywell had met the requirements of (Section IV.1) of the Confirmatory Order."

Physical inspections [7] and [8] performed by the NRC from January 1, 2013 through June 30, 2013, were focused on evaluating activities conducted to implement the requirements of the Confirmatory Order. Upon completion of the detailed evaluation

documented in the TER and physical inspections of the modifications, the NRC confirmed Honeywell's implementation of the Confirmatory Order and granted Honeywell the authorization to resume full operations in July 2013 [9].

As a final condition of the Confirmatory Order, Honeywell was required to submit a revised ISA Summary within six months subsequent to restart. The ISA update submitted on October 28, 2013, [10] underwent a detailed evaluation of the NRC staff with regard to seismic and high wind/tornado events [11]. As a result of this review, the NRC staff found that "...the requirement to revise the ISA Summary as delineated in the NRC order has been met by Honeywell and that adequate commitments are in place to maintain the safety basis for seismic and high wind/tornado events as described in the reference documents."

The later NRC communication, Staff Requirements – COMSECY-15-0002 [12], reiterated that "... this ISA update demonstrated that for seismic and tornado events, the modifications that the facility made will prevent intermediate and high-consequence releases of licensed and related hazardous materials, so that the chances of such releases occurring are unlikely and highly unlikely, respectively."

### **Summary of Issue**

The safety basis information for seismic and high wind/tornado events is summarized in the ISA Summary [10] and supported by the detailed information provided in the SBCAP [5], including evaluations, walk-down/observation reports, assessments, calculations and other documents presented in the appendices or incorporated by reference. The in depth review and evaluation of this documentation performed by the NRC using the acceptance criteria and guidance from NUREG-1520 [13] was documented in the Technical Evaluation Report [6] and the Review of Honeywell's Revised Integrated Safety Analysis Summary [11].

Although 10 CFR 70 requirements are not applicable, Honeywell is using the ISA processes and makes commitments to meet selected requirements equivalent to those described in 10 CFR 70 Subpart H, specifically 10 CFR 70.64(a)(2). Moreover, the NRC's Review [11] confirmed, in part, that "...the staff finds that there is reasonable assurance that the seismic and tornado safety basis will be adequately maintained for future operation ...". Therefore Honeywell elected to follow recommendations of the Generic Letter for facilities subject to 10 CFR 70.64(a)(2), and provide requested information related to seismic and high wind/tornado events by referencing appropriate sections of the ISA Summary. Since the ISA Summary represents only a summary of the safety basis of these events, more-detailed safety information is made available through the referenced SBCAP.

References in response to information request delineated in the Generic Letter are presented in a tabulated format in Attachment II, Table 1, References in Response to Requested Actions, Section (1) of the Generic Letter 2015-01. In addition, Section (1) of the Generic Letter 2015-01 is provided to support the tabulated information.

The updated ISA Summary did not undergo any modifications related to hurricanes and floods. Given the site's location far inland from coastlines, wind damage from hurricanes is far exceeded by tornado wind loads.

In response to the Generic Letter request regarding floods Honeywell provides MTW-RPT-GEN-0003, Rev.1, Project Report for Metropolis Works (MTW) Facility Flooding Analysis, presented in Attachment III.

The flooding analysis performed by Enercon concluded that:

- Even though the site is in close proximity to the Ohio River, the site is located at a significantly higher elevation than the surrounding areas, and is outside of the 500-year floodplain. The risk of flooding due to an increase in the level of the river is not credible.
- The region surrounding the site does not see abnormally high precipitation levels. Even assuming the worst-case, maximum precipitation level, water would not rise more than a few inches on the site. A flooding incident due to precipitation is deemed to be not credible.
- No preventive or mitigative actions are necessary for an initiating event deemed "not credible."

REFERENCES:

1. Docket No. 40-3392, License No. SUB-526
2. NRC Generic Letter 2015-01, Treatment of Natural Phenomena Hazards in Fuel Cycle Facilities, ML14328A029
3. Temporary Instruction 2600/015 Evaluation of Licensee Strategies for the Prevention and/or Mitigation of Emergencies at Fuel Facilities, ML111030453
4. Confirmatory Order EA-12-157, ML12289A800
5. Safety Basis and Corrective Action Plan (SBCAP), Rev.3, dated May 22, 2013
6. Technical Evaluation Report for Safety Basis and Corrective Action Plan Leading to Restart, Honeywell Metropolis Works, ML13168A187
7. Nuclear Regulatory Commission Inspection Report 40-3392/2013-002, ML13101A092
8. Nuclear Regulatory Commission Inspection Report 40-3392/2013-003, ML13168A069
9. Honeywell Metropolis Works - Docket No. 40-3392 Authorization to Resume Full Licensed Operations (EA-12-157), ML13183A336
10. MTW Integrated Safety Analysis Summary, Rev.6, dated October 28, 2013
11. Review of Honeywell's Revised Integrated Safety Analysis Summary for Seismic and High Wind/Tornado Events Safety Basis, ML14042A396
12. Staff Requirements – COMSECY-15-0002-Termination of Rulemaking to Revise Title 10 of the Code of Federal Regulations Part 40, "domestic Licensing of Source Material" and Staff Plans to Address Other Items in Staff Requirements Memorandum for SECY-12-0071 (RIN 3150-A150), ML15107A488
13. NUREG-1520, Rev.1, ML101390110

## **ATTACHMENT II**

### **REQUESTED ACTIONS**

HONEYWELL METROPOLIS WORKS' RESPONSE TO NRC GENERIC LETTER 2015-01,  
"TREATMENT OF NATURAL PHENOMENA HAZARDS IN FUEL CYCLE FACILITIES"

## ATTACHEMENT II

### “REQUESTED ACTIONS

The NRC requests that all addressees take the following actions:

- (1) Within 90 days of the date of this letter, all addressees are requested to:
  - a. Submit the definitions of “unlikely,” “highly unlikely,” and “credible” in evaluating natural phenomena events in the ISA such as earthquakes, tornadoes, tornado missile impacts, floods, hurricanes, and other wind storms.
  - b. Submit a description of the licensee’s safety assessment for the licensing and design basis natural phenomena events, including the following information:
    - i. likelihood and severity of the natural phenomena events, such as earthquakes, tornadoes, floods, hurricanes, and other wind storms
    - ii. accident sequences as a result of natural phenomena event impacts to facility structures and internal components
    - iii. assessment of the consequences for the accident sequences from item ii that result in intermediate and/or high consequence events
    - iv. items relied on for safety to prevent or mitigate the consequences of the events from items ii and iii
  - c. For facilities subject to 10 CFR Part 70, Subpart H requirements, submit a description of the results of the ISA review used to comply with 10 CFR 70.62(c). This requested documentation should have identified the characteristics of the licensing and design basis natural phenomena events applicable to the site. Additionally, the documentation should have evaluated possible changes in the methodology, likelihood, and severity of natural phenomena events with those used in the original design, evaluation, and licensing of the facility.
  - d. Submit for staff review a summary of the results of any facility assessments or walk downs, if performed, to identify and address degraded, nonconforming, or unanalyzed conditions that can affect the performance of the facility under natural phenomena and have available for NRC inspection the documentation of the qualifications of the team.

Note: Licensees or facilities subject to 10 CFR 70.64(a)(2) may reference sections of their license application and/or ISA summaries as a response to applicable requested actions.”



**Table 1. References in Response to Requested Actions, Section (1) of the Generic Letter 2015-01**

GL Section (1) Item	Earthquake	Tornado	Flood
a	ISA Summary Section 9.1.3, p. 9-4, Definition of Risk Terms, Likelihood Definition, Table 9-2, p.9-14, Seismic Total Risk Likelihood Categories.	ISA Summary Section 9.2.3, Risk Terms Definitions, Likelihood, p.9-12.	
b.	ISA Summary, Section 9, Seismic and High Wind/Tornado Events pp. 9-1 through 9-17		
i. - iii.	ISA Summary Section 9.1.2, Source Term Definitions, p. 9-4, Section 9.1.4, Worst-Case Risk Determinations-Uncontrolled, pp. 9-5 - 9-7, Section 9.1.5, Seismic Accident Sequences, p. 9-7, Table 9-4, Seismic Accident Sequences, p.9-15, Section 9.1.7, Seismic Risk Analysis, and Section 9.1.8, Other Considered Seismic-Related Risk Analyses, pp.9-8 - 9-11.	ISA Summary Section 9.2.2, Source Term Definitions, p.9-12, Section 9.2.4, Tornado Risk Assessment, p. 9-12 - 9-13, Table 9-6, Summary of Tornado Protection PFAPs, p.9-17.	
iv.	ISA Summary Section 9.1.6, Seismic Risk Reduction, pp. 9-7 - 9-8, Table 9-5, Seismic PFAPs, p.9-16.	ISA Summary Section 9.2.4, Tornado Risk Assessment, p. 9-12 - 9-13, Table 9-6, Summary of Tornado Protection PFAPs, p.9-17.	See Attachment III, MTW-RPT-GEN-0003, Rev.1, Project Report for Metropolis Works (MTW) Facility Flooding Analysis.
c.	ISA Summary, Section 9.1, Seismic External Event Risk Analysis, pp. 9-1 - 9-11, SBCAP, Rev. 3, Section III, MTW Seismic Event Safety Basis, pp.4-36.	ISA Summary Section 9.2, Wind/Tornado Event Safety Basis, p. 9-11 - 9-13, SBCAP, Rev.3, Section IV, MTW Wind/Tornado Event Safety Basis, pp. 37-42.	
d.	SBCAP, Rev. 3, Section III, MTW Seismic Event Safety Basis, pp.4-36, specifically Section 2c., Seismic Safe-Guards Identification and Scope Description, pp.12-20.	SBCAP, Rev.3, Section IV, MTW Wind/Tornado Event Safety Basis, pp. 37-42, specifically Sections C.2., Modified Tornado Risk Analysis, C.4, Tornado Risk Protection Considerations, and C.5, TI Compliance Tornado Scope Items, pp. 38-40.	

## **ATTACHMENT III**

MTW-RPT-GEN-0003, Rev.1

Project Report for Metropolis Works (MTW) Facility Flooding Analysis

HONEYWELL METROPOLIS WORKS' RESPONSE TO NRC GENERIC LETTER 2015-01,  
"TREATMENT OF NATURAL PHENOMENA HAZARDS IN FUEL CYCLE FACILITIES"