

July 28, 2004

Honeywell
Specialty Chemicals
ATTN: Mr. Rory O'Kane, Plant Manager
Route 45 North
P.O. Box 430
Metropolis, IL 62960

SUBJECT: HONEYWELL - MATERIALS LICENSE NO. SUB-526 LICENSE
AMENDMENT 16 (TAC LU0038)

Dear Mr. O'Kane:

The U.S. Nuclear Regulatory Commission (NRC) staff has completed its review of Honeywell Specialty Chemicals (Honeywell) license application amendment request by letters dated April 7, 2004, and June 29, 2004. The changes to the Emergency Response Plan (ERP) and Radiological Contingency Plan (RCP) were to be effective July 1, 2004. The staff's detailed review of Honeywell's amendment request is provided in the enclosed Safety Evaluation Report (SER) (Enclosure 1).

As documented in Section 5 of the SER, the staff has determined that the changes meet the requirements of 10 CFR 51.22(c)(11) and therefore, neither an environmental assessment nor an environmental impact statement is warranted for this action.

These changes to Materials License SUB-526 (Enclosure 2) were discussed between Darren Mays of Honeywell and Michael Raddatz, the NRC Project Manager for the Honeywell facility, on June 22, 2004.

If you have any questions concerning this letter or the enclosure, please contact Mr. Raddatz at (301) 415-6334 or via e-mail to mgr@nrc.gov.

In accordance with 10 CFR 2.390 of the NRC's "Rules of Practice," a copy of this letter will be available electronically for public inspection in the NRC Public Document Room or from the Publicly Available Records (PARS) component of NRC's document system (ADAMS). ADAMS is accessible from the NRC Web site at <http://www.nrc.gov/reading-rm/adams.html>.

Sincerely,

/RA/

Gary S. Janosko, Chief
Fuel Cycle Facilities Branch
Division of Fuel Cycle Safety
and Safeguards
Office of Nuclear Material Safety
and Safeguards

Docket 40-3392
License SUB-526

Enclosures:

1. Safety Evaluation Report
2. Materials License SUB-526
Amendment 16

R. O'Kane

2

July 28, 2004

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Docket 40-3392
License SUB-526

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CLOSES TAC LU0038

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DATE	7/1/04		7/1/04		7/22/04		7/22/04		7/28/04		7/28/04	

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DOCKET: 40-3392

LICENSEE: Honeywell International Inc.
Metropolis, IL

SUBJECT: SAFETY EVALUATION REPORT FOR AMENDMENT APPLICATION DATED
APRIL 7, 2004, AND A REVIEW OF THE REVISED EMERGENCY RESPONSE
PLAN/RADIOLOGICAL CONTINGENCY PLAN DATED MARCH 24, 2004
(TAC LU0038)

1.0 BACKGROUND

The primary activity of Honeywell International, Inc., Metropolis Works (Honeywell) in Metropolis, Illinois, regulated by the U.S. Nuclear Regulatory Commission (NRC) under Materials License SUB-526, is the conversion of uranium ore concentrates (U_3O_8) to uranium hexafluoride (UF_6). The UF_6 product is used as feed material for uranium enrichment plants. Operations at the site were first authorized on December 17, 1958. The license was last renewed for a 10-year term, expiring June 30, 2005.

On December 22, 2003, during changes in operations of the fluorinators, there was a UF_6 leak that led to an offsite release. This release resulted in the declaration of a Site Area Emergency (SAE) and the evacuation and sheltering of members of the public offsite. The licensee's initial response actions were consistent with the Radiological Contingency Plan (RCP).

Communications to offsite agencies regarding the SAE declaration were made within the required time frame. The licensee informed the local emergency responders to evacuate everyone in the surrounding area. However, communications with local emergency responders were not maintained and were not complete in that the licensee did not provide additional information that would have assisted local authorities in their response decisions. In addition, the individual designated to make recommendations regarding the SAE declaration was unaware of his responsibilities, and the licensee did not apply any further assessment to determine further recommendations. It was determined during the licensee's root-cause analysis that the Emergency Response Plan (ERP)/RCP required enhancements to the processes for classifying emergencies, notifying affected company and government officials, issuing protective action recommendations, and maintaining the plans' effectiveness. The December 22, 2003, incident is described in detail within the report entitled "Augmented Inspection Team Review of the December 22, 2003, Site Area Emergency Inspection Report No. 40-3392/2004-001."

License Condition No. 11 of NRC License No. SUB-526, Amendment No. 15, requires, in part, that Honeywell maintain and execute the response measures in the ERP dated August 15, 1993, and as amended by letters dated March 19 and 30, 1999, and June 12, 2000, or as provided by the licensee consistent with 10 CFR Section 40.35(f). The ERP, along with the RCP, work together to provide a framework for the emergency response program at Honeywell. The licensee has indicated that both volumes will be combined into a single document when the license renewal application is submitted in the spring of 2005.

On April 7, 2004, Honeywell submitted an amendment application to update its license to specifically reference the March 24, 2004, version of the ERP/RCP. Additional information on revisions to the ERP/RCP was provided by Honeywell in a letter dated June 29, 2004.

This report documents the NRC staff's evaluation of Honeywell's April 7, 2004, application, as supplemented by Honeywell's June 29, 2004 letter.

2.0 REVIEW APPROACH

NRC's regulations in 10 CFR Part 40, "Domestic Licensing of Source Material," require some fuel cycle and materials licensees, as defined in 10 CFR 40.31(j)(1), to prepare emergency plans. This Safety Evaluation Report (SER) documents the acceptability of the ERP/RCP submitted by Honeywell.

Applicable Regulations and Guidance:

An emergency plan submitted pursuant to the requirements of 10 CFR 40.31(j)(1)(ii) and 40.31(j)(3) must include information concerning: facility description; types of accidents; classification of accidents; methods of the detection of accidents; the means and equipment for the mitigation of accident consequences; methods and equipment to assess releases; responsibilities of licensee personnel; notification and coordination; information to be communicated; training; means for restoring the facility to a safe condition; exercises; and a certificate regarding hazardous chemicals, if applicable.

Review Methods Used by the Staff:

The revised ERP/RCP was reviewed as if it were a single document. Each section was considered to ensure that the plans, when taken together, demonstrate that Honeywell has met the requirements of 40.31(j). Regulatory Guide 3.67, "Standard Format and Content for Emergency Plans for Fuel Cycle Facilities," (Reg Guide 3.67) contains guidance on the level of detail recommended to document compliance with 10 CFR 40.31(j)(1)(ii) and it was this Regulatory Guide that was used to judge the acceptability of the ERP/RCP submitted by Honeywell.

3.0 EVALUATION

3.1 FACILITY DESCRIPTION

Regulatory Requirement:

10 CFR 40.31(j)(3)(i) requires, "A brief description of the licensee's facility and area near the site."

Discussion:

The information in this section must be at a level of detail to ensure that it provides a perspective about the facility and the licensed activity such that the adequacy and appropriateness of the licensee's emergency planning, emergency organization, and emergency equipment can be evaluated. Specifically, it must contain a brief description of the: licensed activity, facility and site, and area near the site.

Finding:

The NRC staff reviewed Section 1 of the RCP to determine whether the revised material both accurately and sufficiently described the plant facilities and operations, and provided sufficient information to allow a sound understanding of the important safety and accident analysis information contained elsewhere in the RCP. The staff finds that the RCP meets the requirement of 10 CFR 40.31(j)(3)(i).

3.2 TYPES OF ACCIDENTS

Regulatory Requirement:

10 CFR 40.31(j)(3)(ii) requires, "An identification of each type of accident for which protective actions may be needed."

Discussion:

The licensee's submission was reviewed to ensure that it adequately describes the accidents in terms of the process and physical location where they could occur; how the accidents could happen (an equipment malfunction, instrument failure, human error, etc.); possible complicating factors; and possible onsite and offsite consequences. The accident descriptions were reviewed to ensure that they include evaluations on how non-radioactive hazardous material releases could impact emergency response efforts.

Findings:

The NRC staff reviewed Sections 2 and 3 of the RCP to determine whether the revised material both accurately and sufficiently described the types of accidents and the relative hazards of each. The revised version of the RCP contains expanded sections on accident prevention and mitigation dealing with the multi-chemical hazards at the site. The staff finds that the RCP meets the requirement of 10 CFR 40.31(j)(3)(ii).

3.3 CLASSIFICATION OF ACCIDENTS

Regulatory Requirement:

10 CFR 40.31(j)(3)(iii) requires, "A classification system for classifying accidents as alerts or site area emergencies."

In accordance with 10 CFR 40.4, "*Alert* means events may occur, are in progress, or have occurred that could lead to a release of radioactive material but that the release is not expected to require a response by offsite response organizations to protect persons offsite. *Site area emergency* means events may occur, are in progress, or have occurred that could lead to a significant release of radioactive material and that could require a response by offsite response organizations to protect persons offsite."

Discussion:

In its RCP, Honeywell has expanded the definitions of *an alert* and *site area emergency* to include the "release of a hazardous material, such as UF₆" rather than limiting the classifications to "release of radioactive material," as stated in the regulatory definitions. In addition, the RCP

adds a third classification, *plant emergencies*, that is less severe than an Alert. A *plant emergency* is defined by the RCP “as a minor incident or situation that deviates from normal operation and that could, under certain circumstances, escalate to a higher classification, although not likely.” The RCP states that a minor release of UF₆ that may be visible outside the Feed Materials Building but does not meet the criteria for an *alert* would be classified as a *plant emergency*. The RCP further states that other non-radiological events could be considered to be a *plant emergency*. Examples provided in the RCP include minor fires, personal injuries, chemical spills, loss of primary electrical supply, hazardous weather, or minor releases of toxic gases.

Table 3.1 of the RCP contains a comprehensive list of Emergency Action Levels, breaking down various events into the three classification levels, and includes event descriptions and examples for each classification level.

Findings:

The NRC staff reviewed Section 3 of the RCP to determine whether the revised material both accurately and sufficiently describes the system for classifying accidents. The revised definitions for *alert* and *site area emergency* are acceptable because they are broader than the regulatory definitions. Similarly, the addition of a third classification is acceptable because it broadens the applicability of the plan. The RCP provides sufficient information to correctly classify any event. Therefore, the staff finds that the RCP meets the requirements of 10 CFR 40.31(j)(3)(iii) and complies with the definitions in 10 CFR 40.4.

3.4 RESPONSIBILITIES AND INFORMATION TO BE COMMUNICATED

Regulatory Requirement:

10 CFR 40.31(j)(3)(vii) requires, “A brief description of the responsibilities of licensee personnel should an accident occur, including identification of personnel responsible for promptly notifying offsite response organizations and the NRC; also identification of who has responsibilities for developing, maintaining, and updating the plan.”

10 CFR 40.31(j)(3)(ix) requires, “A brief description of the types of information on facility status, radioactive releases, and recommended protective actions, if necessary, to be given to offsite response organizations and to the NRC.”

Discussion:

Sections 3 and 4 of the RCP were reviewed by NRC staff to ensure that the emergency organization to be activated during events, as well as the offsite support groups that could be called upon to assist, were clearly identified. The revised RCP now specifies the minimum number of hourly and supervisory personnel required to be available for all plant conditions and expanded guidance on the “Chain-of-Command” to clarify responsibilities and to directly tie those responsibilities to the applicable emergency plan implementing procedure(s) (EPIP). Further, the staff verified that the plan, specifically Appendix A of the ERP, identified both the authority and responsibility of key individuals and groups, and that the communication chain for notifying and mobilizing the necessary personnel during both normal, and non-working hours, was clear and workable. Section 3.4 contains expanded guidance on the Notification of Public

Officials and Protective Action Recommendations. In the event of an on-site emergency, the plan now provides enhanced instruction on what should be reported, both to government and the media, and by whom.

Findings:

The NRC staff reviewed the changes to Sections 3 and 4 of the RCP. The goal was to determine whether the revised material both accurately and sufficiently described the type responsibilities of the first responders and if the ERP/RCP contained a brief description of the types of information that needed to be communicated. The staff finds that Honeywell has met the requirements of 10 CFR 40.31(j)(3)(vii) & (ix).

3.5 EMERGENCY RESPONSE MEASURES

Regulatory Requirement:

10 CFR 40.31(j)(3)(iv) requires, "Identification of the means of detecting each type of radioactive materials accident in a timely manner"

40.31(j)(3)(v) requires, "A brief description of the means and equipment for mitigating the consequences of each type of accident, including those provided to protect workers onsite, and a description of the program for maintaining the equipment."

40.31(j)(3)(vi) requires, "A brief description of the methods and equipment to assess releases of radioactive materials."

40.31(j)(3)(xi), requires, "A brief description of the means of restoring the facility to a safe condition after an accident."

Discussion:

As required by 10 CFR 40.31(j)(3)(iv), a brief description of the means of identification and detection of each type of radioactive material accident in a timely manner is contained in Section 2.2.2 of the RCP. The Feed Materials Building contains gaseous alarm and detection systems and smoke detection cameras, however, the major method is the visual identification of a condensing UF₆ cloud by operations personnel. This allows for the immediate shutdown of equipment or isolation of defective equipment. The maintenance program is described in Section 2.4 of the RCP.

As required by 40.31(j)(3)(v) & (vi), a brief description of the means and equipment for assessing and mitigating the release and consequences of each type of accident, including those provided to protect workers onsite, and a description of the program for maintaining the equipment is contained within Section 2.3 of the RCP. The Honeywell facility is unique in that it has multi-chemical-hazards. The most significant is the presence of anhydrous hydrofluoric acid and the product chemical UF₆. However, the facility also utilizes ammonia, IF₅/SbF₅, and both liquid and gaseous fluorine. The description of the means and equipment for mitigating the consequences of accidents involving these chemicals is also contained in Section 2.3 of the RCP.

As of March 2004 the "Safe Shutdown Procedures" have been transferred to "Operating Procedures". However, a brief description, as required by 40.31(j)(3)(xi), is provided in Section 7 of the RCP. The section references EIPs for the means of restoring the facility to a safe condition after an accident.

Findings:

The NRC staff reviewed the enhancements to the ERP/RCP. The goal was to determine whether the revised material both accurately and sufficiently met the requirements of 10 CFR 40.31(j)(3) (iv), (v), (vi) & (xi). Staff has determined that Honeywell has met the regulatory requirements.

3.6 EMERGENCY RESPONSE EQUIPMENT AND FACILITIES

Regulatory Requirement: "Notification and Coordination"

10 CFR 40.31(j)(3)(viii) requires, "A commitment to and a brief description of the means to promptly notify offsite response organizations and request offsite assistance, including medical assistance for the treatment of contaminated injured onsite workers when appropriate. A control point must be established. The notification and coordination must be planned so that unavailability of some personnel, parts of the facility, and some equipment will not prevent the notification and coordination. The licensee shall also commit to notify the NRC Operations Center immediately after notification of the offsite response organizations and after the licensee declares an emergency."

Discussion:

The staff reviewed the ERP/RCP to ensure that it contains a brief description of Command Center Organization, Communications Equipment, Onsite, Offsite Communications, Onsite Medical Facilities, and Emergency Monitoring Equipment. Section 4 of the RCP contains a description of the Emergency Response Organization and Appendix B of the ERP contains references to the mutual aid and coordination. Section 6 of the RCP (Equipment and Facilities Section) contains references to communications and control equipment as well as chemical and radiological detection and monitoring/survey equipment. Section 3 of Appendix B of the ERP contains commitments to the 1 hour NRC notification requirement.

Findings:

These Sections of the ERP/RCP were enhanced to incorporate lessons learned, as well as changes to equipment available to assist in notifying the local residents of a release at the Honeywell facility. The most significant changes involve the commitment to a recommendation to "Shelter-in-Place" and the installation of several new sirens to warn residents when "sheltering" is necessary. In addition to sirens, and a dedicated telephone line for emergency response staff, the enhanced warning system utilizes broadcast radio announcements, and a telephone calling system that can place up to 15,000 calls per hour. As described in Section 3.7 of this SER, the licensee has committed to challenge these systems in future drills and table top exercises to ensure that they will be fully operational when and if needed. Further, the licensee has coordinated the enhancements to the ERP/RCP with the Illinois Emergency Management Agency through its local representative and local off-site responders. NRC has provided a copy

of the revised plan to EPA Region V, as well as local and state emergency response organizations. Staff has determined that Honeywell has met the regulatory requirements of 10 CFR 40.31(j)(3)(viii).

3.7 MAINTAINING EMERGENCY PREPAREDNESS CAPABILITY

Regulatory Requirement

10 CFR 40.31(j)(3)(x) requires, "A brief description of the frequency, performance objectives and plans for the training that the licensee will provide workers on how to respond to an emergency including any special instructions and orientation tours the licensee would offer to fire, police, medical and other emergency personnel. The training shall familiarize personnel with site-specific emergency procedures. Also, the training shall thoroughly prepare site personnel for their responsibilities in the event of accident scenarios postulated as most probable for the specific site, including the use of team training for such scenarios."

10 CFR 40.31(j)(3)(xii) requires, "Provisions for conducting quarterly communications checks with offsite response organizations and biennial onsite exercises to test response to simulated emergencies. Quarterly communications checks with offsite response organizations must include the check and update of all necessary telephone numbers. The licensee shall invite offsite response organizations to participate in the biennial exercises. Participation of offsite response organizations in biennial exercises although recommended is not required. Exercises must use accident scenarios postulated as most probable for the specific site and the scenarios shall not be known to most exercise participants. The licensee shall critique each exercise using individuals not having direct implementation responsibility for the plan. Critiques of exercises must evaluate the appropriateness of the plan, emergency procedures, facilities, equipment, training of personnel, and overall effectiveness of the response. Deficiencies found by the critiques must be corrected."

Discussion:

10 CFR 40.31(j)(3)(x) requires, "A brief description of the frequency, performance objectives and plans for the training..." Section 7 of the RCP contains reference to the training program and objectives. Appendix J of the ERP contains specific emergency response training requirements. The revised and substantially enhanced ERP/RCP contains expanded guidance to plant management and the emergency response staff. The responsibility for emergency plan audit and critique has been placed under the plant Quality Assurance (QA) Program to ensure that it will be adequately maintained.

10 CFR 40.31(j)(3)(xii) requires, "Provisions for conducting quarterly communications checks...drills, exercises, and biennial exercises..." Section 7 of the RCP contains the outline for conducting drills, exercises, and biennial exercises as well as the critiquing requirements. This section has been enhanced and expanded in accordance the guidance supplied by Reg Guide 3.67. It contains direct reference to new EIPs, and a process for management review to ensure that emergency response capability is not compromised. The scenarios have been substantially updated to ensure a more realistic test of the staff and support personnel. The emergency response system will now be independently audited by the plant QA program. This section also contains enhanced requirements for interaction with off-site responders.

Findings:

The NRC staff reviewed the changes to Section 7 of the RCP. The goal was to determine whether the revised material both accurately and sufficiently described the training, drills, exercises to be conducted, as well as the communication checks and audit program. The staff finds that Honeywell has met the requirements of 10 CFR 40.31(j)(3)(x) & (xii).

3.8 COMPLIANCE WITH COMMUNITY RIGHT-TO-KNOW ACT

Regulatory Requirement:

10 CFR 40.31(j)(3)(xiii) requires, "A certification that the application has met its responsibilities under the Emergency Planning and Community Right-to-Know Act of 1986, title III, Pub. L. 99-499, if applicable to the applicant's activities at the proposed place of the use of the source material."

Findings:

The applicant, in Appendix B of the ERP, included a statement of compliance with the applicable portions of Emergency Planning and Community Right-to-Know Act of 1986, title III, Pub. L. 99-499. Therefore, the staff finds that Honeywell has met the requirement of 10 CFR 40.31(j)(3)(xiii).

3.9 CHANGE MANAGEMENT

Regulatory Requirement:

10 CFR 40.35(f) states, "Licensees required to submit emergency plans by 10 CFR 40.31(i) shall follow the emergency plan approved by the Commission. The Licensee may change the plan without Commission approval if the changes do not decrease the effectiveness of the plan."

Discussion:

During NRC's evaluation of the December 22, 2003, release at the Honeywell facility, it was found that this requirement was not met. The specifics were detailed in a Notice of Violation (NRC Inspection Report No. 40-3392/2004-003 Honeywell Specialty Chemicals). Therefore, to reduce the likelihood of a recurrence, the ERP/RCP was reviewed to ensure that the process to be utilized when the plan is either modified or updated was included within the ERP/RCP, and that the changes are carefully considered by the appropriate level of management.

Finding:

The licensee has committed within Section 7 of the ERP/RCP, that all changes to either the plan or associated EIPs will be approved in accordance with Plant Policy PT-1, Process Modification Procedure. This Procedure will ensure that any changes to the ERP/RCP will not reduce the effectiveness of the plan without NRC approval. The NRC staff will review the implementation of this process, in future inspections at the facility, to ensure that Honeywell remains in compliance with 10 CFR 40.35(f).

4.0 CONCLUSIONS

The staff finds that the revised ERP/RCP has met the requirement of 10 CFR 40.31(j)(3), and the plan is consistent with the guidance contained in Reg Guide 3.67. Therefore, the staff recommends approval of the amendment request with the inclusion of the following revised License Condition No. 11.

“The licensee shall maintain and execute the response measures in the Radiological Contingency Plan (Emergency Response Plan) dated August 15, 1993, and as amended by letters dated March 19 and 30, 1999, June 12, 2000, April 7, 2004, and June 29, 2004, or as provided by the licensee consistent with 10 CFR Section 40.35(f).”

5.0 ENVIRONMENTAL REVIEW

The proposed revision to the ERP/RCP consists of changes that are organizational or procedural in nature. Staff has determined that the following conditions have been met:

- There is no significant change in the types or significant increase in the amounts of any effluents that may be released offsite;
- There is no significant increase in individual or cumulative occupational radiation exposure;
- There is no significant construction impact; and
- There is no significant increase in the potential for or consequences from radiological accidents.

Therefore, in accordance with 10 CFR 51.22(c)(11), neither an environmental assessment nor an environmental impact statement is warranted for this action.

6.0 REFERENCES

Amendment Request by Honeywell to update the Emergency Response Plan / Radiological Contingency Plan dated April 7, 2004, ML041100532

Regulatory Guide 3.67, "Standard Format and Content for Emergency Plans for Fuel Cycle Facilities

Notice of Violation (NRC Inspection Report No. 40-3392/2004-003, Honeywell Specialty Chemicals) ML041310216

Honeywell - Materials License No. Sub-526 License Amendment 15 (TAC No. L52501) ML030350347

Augmented Inspection Team Review of the December 22, 2003, Site Area Emergency (Inspection Report No. 40-3392/2004-001 - Honeywell) ML040350304.