

November 26, 2007

MEMORANDUM TO: Brian McDermott, Deputy Director for Incident Response
Division of Preparedness and Response
Office of Nuclear Security and Incident Response

FROM: Thomas B. Blount, Chief /RA/
Coordination Branch
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Office of Nuclear Security and Incident Response

SUBJECT: INCIDENT RESPONSE PROGRAM SELF-ASSESSMENT
CONDUCTED AT REGION II DURING THE WEEK OF
OCTOBER 15-19, 2007

During the week of October 15, 2007, a self-assessment was conducted at Region II as part of the review to consider the current status of the Agency's Incident Response (IR) Program. The enclosed report provides additional details of the observations and information obtained during the review. It should be noted the program is effectively implemented by RII personnel as observed by the review team.

The Office of Nuclear Security and Incident Response's (NSIR) self-assessment program is designed to monitor implementation of the Nuclear Regulatory Commission's (NRC) IR Program and facilitate continuous improvement of the program across organizational boundaries. Self-assessment activities are guided by Incident Response Manual Chapter (IRMC) 0210, "Incident Response Self Assessment Program." The observations and comments developed during this review are preliminary in the context that this is the first such assessment conducted in order to assess consistency amongst the agency locations. This assessment process is a pilot, which RII willingly agreed to participate in as the first location. Since this effort is a look at the broad aspects of the IR Program for the agency, this review did not draw definitive conclusions. The IR Program will need to be reviewed in other locations before any implications to the health of the program, especially in the area of consistency of program implementation can be reached.

The review team was able to identify programmatic aspects that should be followed-up as other locations are reviewed, and they are as follows:

- **Information technology (IT) should be leveraged to improve the efficiency and effectiveness of the IR program. Additional growth in this area (use of IT) is possible.**
- **The IR program should consistently identify, communicate, and resolve IR program issues**

- **NSIR should solicit and incorporate Regional exercise objectives into overall exercise plans.**
- **The IR program guidance improvements require increased attention, prioritization, and resources.**
- **Knowledge management related to the IR program should be an area for increased focus.**
 - Resident Inspector Staff participation in exercises (or equivalent training)
 - Federal Radiological Monitoring and Assessment Center (FRMAC)
 - Support knowledge

The review team identified programmatic aspects that support the observation of an effective IR program and they are as follows:

- **Incident Response Organization (IRO) personnel are highly trained and demonstrated a high degree of technical competence.**
- **Equipment and Facilities are highly effective** in supporting the response function.
 - The re-designed IR facility functioned very effectively in supporting team communications and performance of IR duties.
 - Use of the building public address system for IRO call-out using the “Fireside” cue was very effective.
- **Logistics for the Site Team** were efficient and sound.
 - Region II demonstrated a highly effective process to get personnel and equipment relocated to the site. (Emergency kits were well stocked; integration of Site Team into licensee’s EOF was seamless.)
 - Region II systematically captures and maintains a consolidated set of IR reference materials in the “Alpha book.”

Enclosure:

Assessment No. 07-01, Region II IR Program
(w/ attachments)

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Assessment No.: 07-01

Topic: Region II Incident Response Program

Locations: Region II Office, Atlanta, Georgia

Objectives and Scope of Assessment:

The purpose of this Incident Response (IR) Self-Assessment (SA) was to review, in a structured approach, the implementation of the Agency's IR program in Region II. The process is described in Incident Response Manual Chapter (IRMC) 0210. This assessment is a part of the routine evaluation of the NRC's IR Program health and maintenance. This assessment addresses the requirement established in NRC Management Directive (MD) 8.2, which states in part;

"...the EDO delegates the responsibility of overseeing the IRP in each region to the regional administrators, who subsequently redelegate this responsibility to subordinates. Nevertheless, this MD requires a standardized NRC IRP for the HOC and all regions. Periodic reviews of Headquarters and regional IRPs are conducted to ensure that the NRC IRP is carried out consistently across the agency."

Additionally, this assessment evaluated and reviewed the technical aspects of an issue raised by a Region II employee regarding the implementation of the IR abilities.

The following areas were reviewed in this assessment:

Exercise Assessment

This assessment included reviews of IR team performance. The assessment included reviews of both Base and Site Team performance.

Organization and Training

This assessment included reviews of training records, procedures, lesson plans, team rosters and drill/exercise information.

Response Facilities and Equipment

This assessment included reviews to determine the availability and readiness of related facilities, equipment, and maintenance programs.

INCIDENT RESPONSE EXERCISE/EVENT ASSESSMENTS

Summary: Region II IR personnel effectively demonstrated their ability to implement the IR Program during the McGuire full participation exercise and during their response to actual events. The assessment team noted no significant problems.

Base Team Observations:

Overall: The members of the Base Team appeared to be highly trained and demonstrated a high degree of technical competence. The process used to call-out responders and activate the Incident Response Center (IRC) was noted as a good practice (see Item 4 under Observations). The Regional Base Team was composed of 15 team members representing each of the functional areas.

Fifteen objectives were identified for the Base Team. They included demonstrating: the ability to coordinate activities with the licensee and State; proper management notification; timely decision-making and activation of the IRC; effective initial event briefing; maintaining a detailed chronology; the ability to coordinate use of a charter jet service to an airport in the proximity of the site; and the ability to obtain local transportation and lodging near the site for the Site Team. All Base Team objectives were successfully met during the McGuire exercise.

Additional Base Team Observations:

1. **Observation:** A “hotwash” was not conducted immediately following the exercise with the available players. The benefit to this is that it allows individuals an opportunity to assess their own performance and develop accurate and meaningful feedback when the critique is held. A drawback to not holding a “hotwash” is the potential for loss of immediate feedback and fresh recollection of events. Consideration should be given to modify the process in order to ensure no loss of useful information.
2. **Observation:** There was no single individual assigned the role or responsibility for controller or evaluator for the Base Team play. Consideration should be given to having at least one person functioning in a capacity independent from the exercise performance to observe team performance as a means of assessing benefits.

One of the items captured by Region II following the BWXT Event was that Region II should consider having independent staff to provide their viewpoints or observe events. Assigning an exercise evaluator would allow the Region to obtain a greater oversight of regional performance, teamwork, and synergy during an exercise and is noted as a Regional IR Best Practice in the list of best practices that were developed by the Emergency Response Coordinators in 2004.

3. **Observation:** Objectives for exercises should be shared and common between the Regions and HQs. This should be accomplished as early as possible and in sufficient time so each location’s needs are equitably accommodated without reliance on inappropriate injects. During this exercise (in order to meet the time needed for HQ participants to meet their performance objectives) an inject was used to simulate a “phone system intermittent failure at the Regional Office.” When this is a real life type of event, the response is to transfer responsibility to the backup Region. Instead, for purposes of the exercise, the lead for Monitoring Mode was transferred to headquarters. While the goal was admirable, the result is that in doing so, negative training was

introduced. Improvement in exercise pre-planning is appropriate in this area. Further, this was discussed in the December 12, 2004, memo from Roy Zimmerman to all Regional Administrators, with regard to "Regional and Headquarters Exercise Coordination Enhancements," ML041970103.

4. **Observation:** In order to notify the IRO members of the event, the Region relies on the building public address system. The organization has been trained to respond to a "codeword" reflecting the need to staff the response center. This minimizes the potential for concern or fear to be raised in those not associated with the NRC response, but provides an immediate recognition source for the responders and employs the highly effective public address system. This approach should be considered for application at HQs and other locations, if appropriate.
5. **Observation:** The Regional response team gathers in a location nearby the IRC prior to entry. In this location the specific responders are identified to fill particular roles. Also, at this location, while the responders are being selected, event information and an initial briefing is provided to advise the whole team of what has transpired regarding the event up to that time. This has the benefit of an initial briefing that puts all members at the same or near same starting point.

Site Team:

Overall: The members of the Site Team appeared to be very well prepared to implement their responsibilities as part of the NRC's IR Program. Team members were experienced and familiar with the requirements of their positions. The team traveled to the McGuire Emergency Operations Facility (EOF) and Technical Support Center (TSC) without incident, received briefings from both the licensee team and the NRC Headquarters team, and assumed the lead for NRC IR activities. Fifteen Site Team members were sent to the EOF, two to the TSC, two to the control room, and one to the State Emergency Operations Center (EOC).

Six objectives were identified for the Site Team. They included integration into the licensee's facilities; conducting effective turnovers; monitoring and assessing licensee actions; assessing radiological conditions and protective action recommendations; interfacing with State and local governments; and integrating into the Joint Information Center (JIC). All objectives were met for the McGuire exercise.

Note: due to the licensee's EOF being a corporate facility in Charlotte (not near the plant), the Site Team briefly discussed protective measures for the team members.

Additional Site Team Observations:

1. **Observation:** Logistics for the site team were efficient and sound. The NRC Field Office Coordinator implemented a highly effective process to get personnel and equipment relocated to the site. The emergency kits were well stocked and the integration of the NRC Site Team into the licensee's EOF was seamless. All equipment functioned as designed.
2. **Observation:** The Site Technical Assessment team demonstrated effective use of the licensee's Safety Parameter Display System (SPDS) and manipulated it without need for aid from the licensee. A Technical Assessment team member used the SPDS to trend plant performance parameters.

3. **Observation:** The Protective Measures Branch Leader and Protective Measures Team demonstrated the ability to provide independent technical assessment of conditions and perform dose projections. Dose projections were consistent with licensee projections. In addition, the Protective Measures Branch Leader was proactive in establishing interfaces and thoroughly implemented the requirements of his position.
4. **Observation:** NRC Site Team personnel effectively supported the JIC operations. Site Team personnel (including the Deputy Site Team Director) provided periodic briefings at the JIC and were prepared for questions from the media.
5. **Observation:** A crisp, effective turnover was held between the Site Team Director and the headquarters Executive Team (ET) Director during the McGuire exercise. The ET Director delegated the following responsibilities to the Site Team Director: 1) serve as Senior Official; 2) recommend actions, as appropriate; 3) recommend protective action recommendations, as appropriate; and 4) serve as the NRC spokesman. The ET Director also asked the Site Team Director to be prepared to serve as a Principal Federal Official (PFO) should the event increase in severity and an Incident of National Significance be declared. This role would continue until the senior DHS official arrived.
6. **Observation:** The site team used loose copies of their position procedures so they could take notes (such as telephone numbers) and check off steps as they were completed.
7. **Observation:** The licensee, State, and counties posted copies of their press releases at the JIC. NRC did not post copies of their press releases. For consistency, NRC press releases should be posted.
8. **Observation:** As required, the Chronologist maintained a detailed incident chronology at the licensee's EOF.

Additional Interview Observations

Overall: Interviews were conducted with twelve members of Region II that serve IR program roles. Members clearly understood the responsibilities of their assigned positions, received appropriate training, and participated in exercises and actual event response. Their observations included:

1. **Observation:** The IR procedures are very helpful since they are used infrequently.
2. **Observation:** Team performance is critical in IR. Good communication is critical for good team performance.
3. **Observation:** Clear minimum requirements should be established for important areas of IR.
4. **Observation:** An integrated schedule for headquarter provided training (one year duration) would help the region plan.
5. **Observation:** Government VISA card is very helpful for the Site Team operations. It can be used for extension cords, adapters, and other small necessities.

6. **Observation**: Use of a licensee plant computer terminal (SPDS) is very helpful for Technical Assessment personnel.
7. **Observation**: Use of digital dosimetry should be considered.

INCIDENT RESPONSE ORGANIZATION AND TRAINING

Summary: IR personnel were trained, ready, and fully prepared to respond to events. The assessment team noted no significant problems in the areas of organization and training.

1. Verify that, for actual events, staffing of IR positions was sufficient to implement the IR program. If staffing problems occurred, determine the root cause and whether IR program changes are necessary.
 - a. **Observation:** Staffing was determined to be sufficient to implement the IR Program as verified by interviews with members of the Region II IRO.
2. Verify that the IR positions identified by the IR Program for the Base Team, Site Team, and headquarters team are sufficient to implement the program. If region(s) or headquarters are staffing additional positions, determine if a new position should be created and formally added to the IR program.
 - a. **Observation:** Region II implements staffing for the IR Program as defined and has not created additional positions as verified through interviews with members of the Region II IRO and observation of the McGuire emergency exercise.
3. Verify that the IR positions identified by the IR Program for the Base Team, Site Team, and headquarters team are not overly redundant. Determine if any positions should be eliminated to streamline the IR organization.
 - a. **Observation:** Region II implements staffing for the IR Program as defined and does not believe there is a need to eliminate any of the defined positions.
4. Verify that the Training and Qualification Program fully prepares responders for their duties (interview the responders). Identify any gaps in training.
 - a. **Observation:** The Training and Qualification Program was determined to be highly effective. IR personnel demonstrated a high degree of technical competence during the McGuire emergency exercise. For the specific position of the Senior Resident Inspector / Resident Inspector, additional in-depth training in roles and responsibilities including maintenance of IR skills may be appropriate. As identified during interviews with Region II staff and managers, another gap identified was the potential loss of corporate knowledge regarding the Federal Radiological Monitoring and Assessment Program.
5. Verify that significant lessons learned are put into the IR training program in a timely manner, commensurate with their safety significance. Verify that IR responders are trained on important changes to procedures and equipment.
 - a. **Observation:** The assessment team determined that the Region II exercise critique process captured various issues including issues which were best resolved by training. The Emergency Response Coordinators are tasked to address those issues during future training (e.g., one on one training or group training), as appropriate.

6. Verify IR training requirements sufficiently cover dealing with other governmental agencies.
 - a. **Observation:** During interviews with members of the Region II IRO, the assessment team determined that governmental liaison activities are effective from the Regional perspective. Additional efforts may be necessary to maintain the corporate knowledge related to the Federal Radiological Monitoring and Assessment Center program.

Additional Observations:

The following additional observations were made by the assessment team in this area:

1. Currently, training information and records are maintained using the Region IV Emergency Response Training records system (version February 1, 1995, DOS based). While the system contains the necessary information, it is resource intensive and difficult to maintain. A standardized tracking system (consistent with what other NRC locations are using) is desired. This effort needs to be budgeted for implementation.
2. Currently, the training is based on a 3 year re-qualification cycle.
3. There is a high level of frustration with a perceived lack of HQs direction in the training area.
4. With regard to responder's interaction with licensees during events, several aspects were noted. Responders that are part of the Site Team are encouraged to apply the concept of the "4 Is" which relate to actions not to adopt during an event. Do not do the following:
 - a. Interfere
 - b. Intrude
 - c. Interrupt
 - d. Inspect

This has been effective for the Site Team members, but may be somewhat counterproductive for resident inspectors if carried too far. This may have been the case in some observed behaviors.

5. The position of resident inspector is uniquely challenging. It is the single position that provides direct agency on-scene interaction during the early stages of an event. For this reason, the position is critical to the NRC's ability to fully understand the early implications of an event. Individual resident inspectors must be sufficiently knowledgeable to accurately relay licensee actions and event response during critical times. This is especially challenging for individuals assigned as back-up or "visiting" inspectors. Back-up and visiting inspectors may not have the same level of detailed knowledge that the primary resident inspectors have and this could hamper their effectiveness.

It should be noted that R-II management has evaluated the capabilities for various resident inspectors to respond to emergency events. In response to this internal

assessment, regional management provided additional guidance and has instituted continuing training in support of the unique situations for resident inspectors. This focused effort has increased the level of preparedness for inspectors by establishing clearer expectations, providing opportunities to share experiences, and conducting individual assessments of knowledge levels.

Due to the unique challenges of this position, this effort should be considered for applicability to other locations. It may be valuable to assess the training provided to resident inspectors in regard to their roles during an emergency in order to ensure a level of consistency amongst the Regions. Issues that need to be addressed for their IR roles include:

- a. How to meet exercise qualification expectation for participation, particularly if the NRC does not conduct a drill with their site?
 - b. What are the specific expectations for Residents during events, and where should those requirements/expectations reside in qualification space, i.e. existing resident qualification card, IR qualification card, Regional management performance metric for individuals?
 - c. To what degree do these expectations and requirements go to the “alternate” and/or the “back-up” resident inspector for a specific site?
 - d. How does the role of TTC training for inspectors influence or impact, specifically the guidance or concept presented of “Stay out of the way” as presented in the Training “NRC Expectations for NRC Inspectors” in Chapter 2, rev 1002?
6. The issue of personnel protection during an event for NRC personnel on site needs to be addressed in a consistent methodology. The guidance that was developed for the draft procedure should be promulgated in an agency-wide process. This should be considered as part of the Site Access Training for NRC staff.

INCIDENT RESPONSE FACILITIES AND EQUIPMENT

Summary: IR facilities and equipment were ready to support response to events. The assessment team noted no significant problems in the areas of facilities and equipment.

1. Verify that, for actual events, facility and equipment operate properly and deficiencies did not adversely impact the IR efforts. If problems occurred, determine the root cause and whether corrective actions are warranted.
 - a. **Observation:** During interviews with members of the Region II IRO, the assessment team determined that all equipment operated properly; no deficiencies were identified.
2. Verify that primary equipment functions properly during the emergency exercises.
 - a. **Observation:** The assessment team observed that all equipment operated properly during the McGuire emergency exercise. The one exception was that the IR Center computer assigned to the dose assessment function crashed but was quickly restored.
3. If problems are encountered with the primary equipment, verify that backup equipment functions properly during the emergency exercises.
 - a. **Observation:** It was observed that the computers and the IRC in general do not have back-up power. A loss of power during the response to an event may cause a loss of all information related to the event by the responders and make re-creation of information very difficult. Options to minimize a “loss of building power” impact may be advisable.
4. Determine (interview the Emergency Response Coordinator or headquarters lead) the current list of equipment that is out of service and the timeline for restoring functionality. Ensure appropriate compensatory actions have been taken and are effective.
 - a. **Observation:** At the time of the assessment, one digital telephone in the IR Center was inoperable but was scheduled for repair.
5. Identify major equipment outages from the previous 12 months and what actions were taken to preclude future outages.
 - a. **Observation:** On occasion, and for periods of short duration, the building in which the Region II offices are located experiences telecommunications outages that cause the Regional digital telephone system to be inoperable. These outages are outside of Region II’s control. Compensatory measures include establishing communications from the two analog telephones and 35 cellular telephones. In addition, Region II is prepared to turnover to the designated backup region if necessary.
6. Determine if procedures are in place (if necessary) to ensure readiness of IR equipment and facilities.

- a. **Observation**: Region II IR staff perform quarterly IR Center equipment tests to ensure the readiness. For example, from October 9-12 all communications equipment, computers and analysis software were tested in preparation for the McGuire emergency exercise.
7. Verify that audible systems provide communications that are clear and understandable.
 - a. **Observation**: The public address system used in Region II's IR Center was audible and telecommunications equipment was mechanically clear. The Senior Resident Inspector reported occasional congestion on the Reactor Safety Counterpart Link during the McGuire emergency exercise.
8. Determine if call-out systems are working properly.
 - a. **Observation**: A public address system "Fireside" announcement is used to call out members of the IRO. The assessment team determined that this process was effective for the activation / staffing of the Regional IR Center during the McGuire emergency exercise.
9. Determine if analysis software is working properly (ERDS, RASCAL, etc.).
 - a. **Observation**: The assessment team noted that all analytical software was functioning properly during the McGuire emergency exercise.
10. Determine if facility noise is maintained at an appropriate level. Ensure ventilation.
 - a. **Observation**: The IR Center facility layout and design are conducive to an unimpeded work environment. During the McGuire emergency exercise, facility noise level was maintained at a low level and provided an effective work environment to focus on the plant event.
11. Ensure facility design is conducive to IR activities and necessary functionality and coordination.
 - a. **Observation**: The assessment team noted that the re-designed IR Center functioned very effectively in supporting team communications. Additionally, the PMT/RST integrated work area facilitated communications; the structure of the facility lends itself to the management of "dual-event response" should the need arise; use of the existing IT equipment demonstrated information was readily accessible to the Base Team; and log-in and start-up of equipment is identical to normal workstation, making equipment easier to use for responders, but includes needed accesses to IR resources such as RASCAL, ERDS, IR e-Library.
12. Ensure regional go-kits (supplies for a Site Team) are appropriately stocked, maintained, and staged for possible deployment.
 - a. **Observation**: The assessment team noted that logistics for Site Team were efficient and sound. Additionally, the process used to get personnel and equipment relocated to the site was highly effective. Emergency kits were well stocked and integration of Site Team into licensee's Emergency Operations Facility was seamless.

Additional Observations:

1. IT should be leveraged to improve the efficiency and effectiveness of the IR program. Additional growth in this area (use of IT) is possible.
 - a. Responder training information is tracked using a DOS program (RIVER) developed in 1995. This program is resource intensive and should be replaced by a modern program.
 - b. The potential for having multiple JICs simultaneously activated (licensee/State, HQs and DHS/FEMA) without access to consistent/coordinated press release information presents a risk for multiple message errors.
 - c. WebEOC and E-library are examples of opportunities where new technology good improve the effectiveness and efficiency of the IR program.

INCIDENT RESPONSE PLAN, PROCEDURES, AND GUIDELINES

Summary: This functional area was not originally included in the scope of the Region II self-assessment. However, due to the number of programmatic observations related to this area, this report lists observations related to plans and procedures. IR procedure improvements should be a continued area of focus.

The following observations were made by the assessment team in this area:

1. **Observation:** There is a need to have standardized administrative controls procedures in place. Currently, information contained in the Response Technical Manuals and Response Coordination Manual (RCM) is needed to describe Agency practices and processes even though aspects of the RCM are out of date.
2. **Observation:** The program characteristics described in several historical documents have not been captured in current IR program policy documents. Review existing administrative guidance to ensure no loss of corporate knowledge, such as:
 - a. Aspects of NUREG-0728, April 10, 2003, version.
 - b. Regional IR Program Best Practices memo, August 27, 2004 (ML042190409)
 - c. Regional and Headquarters Exercise Coordination Enhancements memo, 12/2/2004 (ML041970103)
3. **Observation:** There is a need for a standardized methodology/process to capture programmatic performance aspects including exercise evaluation/evaluators, amending Lesson's Learned process:
 - a. "Hotwash"
 - b. Use of evaluators
 - c. Application of the "blast-dial" notification for low-level events (NOUE)
4. **Observation:** The IR program guidance improvements require increased attention and prioritization. The administrative guidance needs additional focus to aid/support Regional program implementation. Suggested priority:
 - a. Training and Qualification
 - b. Drill and Exercise Coordination
 - c. Corrective Action Program
 - d. Roles and Responsibilities – Determine whether or not organizational charts could be utilized for this function.