



# Virtual Outage War Room

*Achieving Collective Radiation Exposure (CRE) reduction  
through Vocera*

Robin Tamburi

# **A little history.....**

- **Presented to the ALARA manager's committee on 9/2010.**
- **Bought is 12/11. 150 badges /300 users**
- **Installation in February 2012 for March 2012 outage**
- **Became a pilot program for Entergy ( had already piloted at Riverbend and ANO but this was the biggie)**
- **Maintenance and Operation bought 70 more badges 3 days before the outage. Total of 210 badges**
- **RP is the administrator and IT handles the technical.**
- **Presented to the Entergy Board of Directors in April 2012 and the IT Corporate headquarters in May 2012**
- **Has become an Entergy Fleet Standard for communication.**

# Virtual Outage War Room

- **Innovative VOCERA voice communication system using Wi-Fi (802.11) to link workers in Radiological Control Areas (RCAs) and throughout the plant**
- **Features for real-time individual or group communications**
- **Lightweight, compact, superior voice recognition system learns the users speaking patterns for voice activations**
- **IPEC Radiological Protection (RP) and Operations Testing Group have implemented VOCERA**
  - **Piloted at RBS, ANO and IPEC**
- **Results: A True Mobile War Room for Outages**
  - **Improved communications**
  - **Shorter RCA stay times and lower Collective Radiation Exposure (CRE)**

# VOCERA Overcomes Existing Barriers

Traditional Devices	VOCERA Solution
Bulky or hard to carry	Extremely portable, compact and light <ul style="list-style-type: none"><li>• Wearable on lanyard or clip</li><li>• Weighs two ounces</li><li>• Length: 4.2" / Width: 1.4"</li></ul>
Dead spots in cell or radio coverage	Uses extensible site Wi-Fi systems
Hands on required for dialing or keying device	Entirely voice activated
Unable to set up conference calls or make broadcast calls	Broadcast messages to groups of individuals or to functional areas
Change of duty personnel leads to confusion on whom to call	Calls routed by function: <ul style="list-style-type: none"><li>• Example: "Call Maintenance War Room" routes to Maintenance War room Coordinator</li></ul>

# Outage Success Story from RP

- **Virtual Radiation Protection War Room**
  - **Improved communication in Containment**
  - **Actual CRE Savings**
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- **“Vocera, is a very useful tool that greatly improved efficiency in communication with the entire site organization. This communication tool greatly improved our ability to remove barriers to get work done more efficiently. This tool also improved RP supervisions ability to communicate directly from the field essentially providing a virtual RP war room when resources did not support an actual war room. This tool is vital tool for improving communications for outages going forward.”**

***-Reid Tagliamonte, RPM***

# Outage Success Story from Operations

- **“Without a doubt, vocera was a huge success. I had three big tests go off more efficiently, with faster real time communications (less confusion/ phone tag) and less dose. They were PT-R13 (SI), PT-R16 (recirc pumps), PT-R2A (VC SUMPS). I communicated with R. Caffo / D. Worrall on both sump tests for the ENTIRE duration of the test; I have never been able to do that with any other communication device the company has provided me with in the past. I was able to answer my team mates’ questions (those not wearing vosera) as they were asked, because I could hear them thru the microphone (vc sump). This system is an invaluable tool for the whole station and should be researched more with more locations being tested all the time. I have dozens of more examples of their usefulness if required. To all of the people that you worked with on this project I would like to say job well done.**

**–Scott Couvelier, Sr. Reactor Operator**

- **“The bottom line is that Vocera was a success. I received much positive feedback from the Test Group operators. From the OSS I could get direct job status, with minimal interruption – much better than paging. I also noticed that the Paging overall was the least for any outage. Vocera made our life easier – reduction of manpower, avoiding “runners” from 1 job location to another. All of this leads to reduced dose. Key examples were the VC sump test where operators clearly communicated with CCR, 46ft VC and 68FT VC. Another was the valve 731 work where we had clear communication with 46’ ICW, CCR and 68 Pipe Pen. The noise cancellation headphones also worked well. There were areas where Vocera dropped out, but we learned where to walk to be in range again”**
- Charlie Hock, Shift Manager**

# Outage Success Story from RP

RWP Number	2R20 RWP Title	Vocera mRem Savings
20122503	2R20 Chemistry Support	3.2
20122534	2R20 Reactor Coolant Pump Work	17.8
20122539	2R20 modifications and projects	54.5
20122509	2R20 Outage I & C	73.5
20122520	2R20 Outage Valve Work	139.8
20122506	2R20 Maintenance Support	164.7
20122502	2R20 Operations Support	204.7
20122501	2R20 Radiation Protection Support	209.0
20122518	2R20 and Inspections	331.2
20122508	2R20 Operations Testing Support	568.3
<b>TOTAL</b>		<b>1766.8</b>