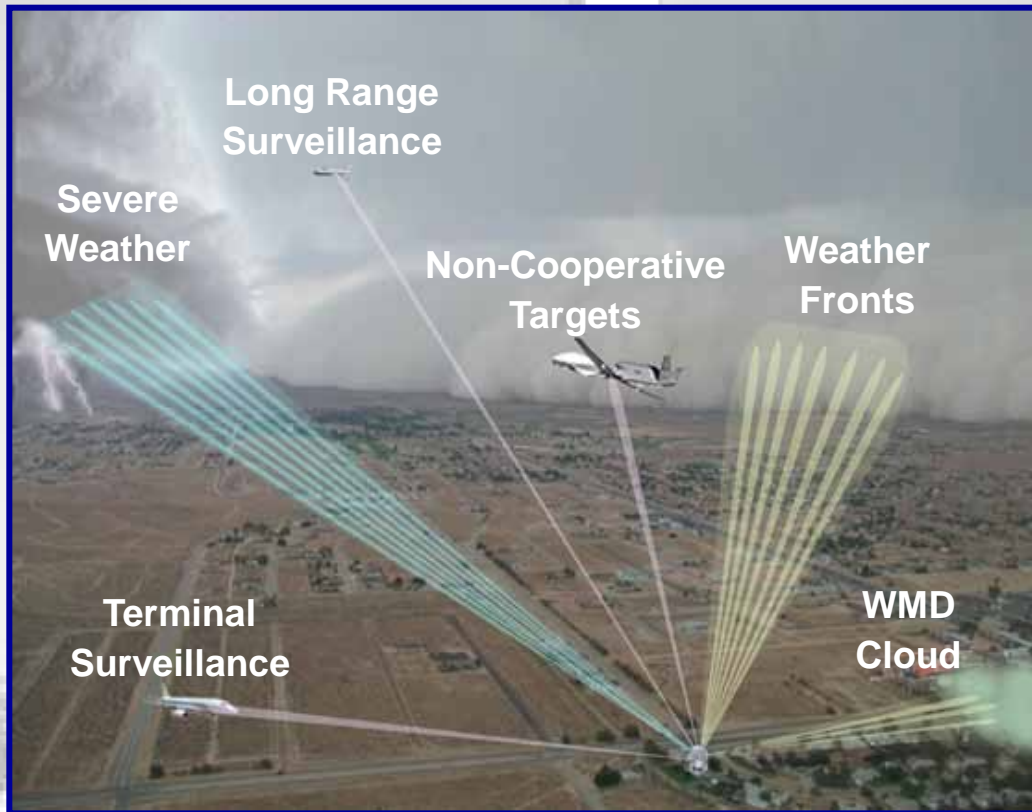


Multifunction Phased Array Radar Symposium II

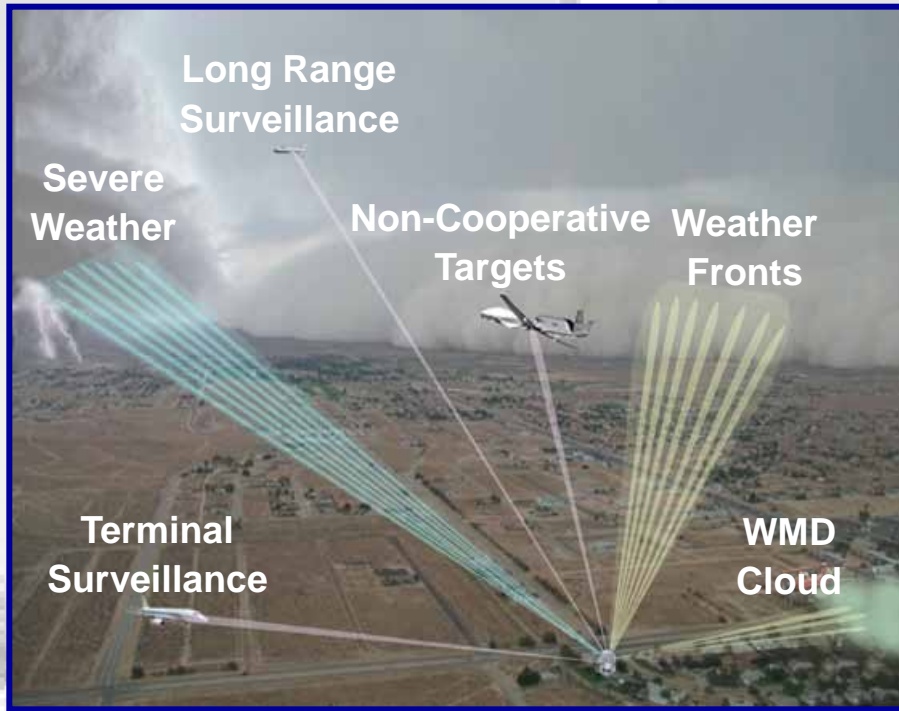


***“Moving Forward
with Risk Reduction
for Cost-Effective
Service
Improvements”***

November 17-19, 2009

Introductory Comments

Mr. Samuel P. Williamson
Federal Coordinator for Meteorology



MPAR Symposium II
***“Moving Forward with
Risk Reduction for Cost
Effective Service
Improvements”***

November 17-19, 2009

Overview

- **Review of Major MPAR-related Activities**
 - **Symposium Objectives**
 - **Expected Symposium Outcomes**
 - **Symposium Agenda / Activities**
 - **Introduction of Keynote Speaker**
-

Review of Major MPAR-Related Activities

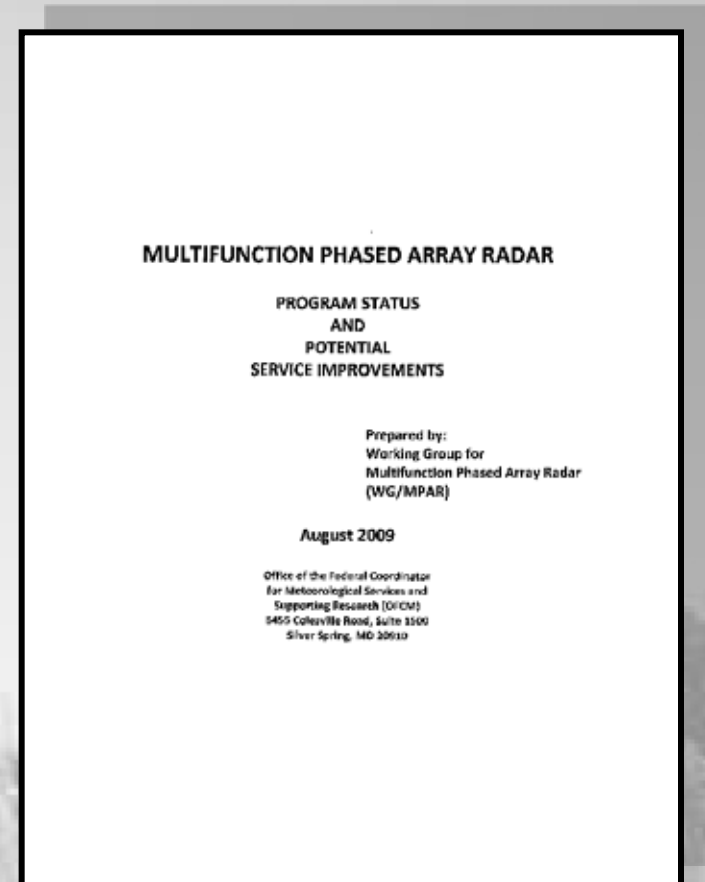
Two Major Actions from 1st Symposium

- **Develop interagency MPAR implementation strategy**
 - § **Developed immediately after symposium**
 - § **Will hear overview of strategy later this afternoon**
 - **Develop management approach options**
 - § **Formed MPAR Exec. Council (NOAA, FAA, DOD, DHS)**
 - § **First meeting held December 2008**
-

Review of Major MPAR-Related Activities

- ***Published Multifunction Phased Array Radar: Program Status and Potential Service Improvements****

§ Will hear more in Sessions 4 and 5



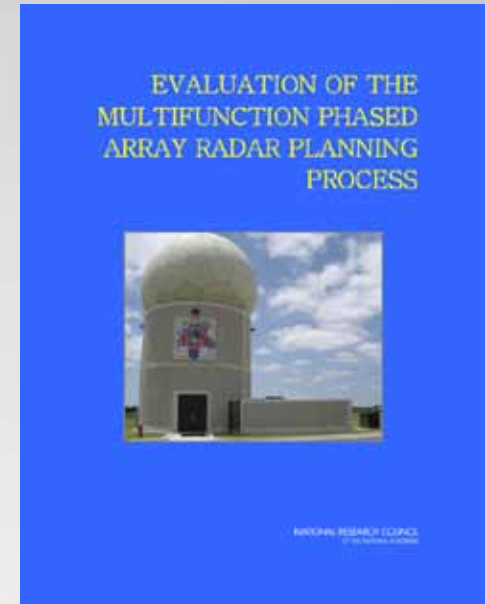
* *Included in MPAR Symposium folder*

Review of Major MPAR-Related Activities

National Academies Report on MPAR

- The National Academies' Board on Atmospheric Sciences and Climate's (BASC) Committee published a report on the *Evaluation of the Multifunction Phased Array Radar Planning Process*

- Overarching Recommendation (August 2008):



“The committee recommends that the MPAR Research and Development (R&D) program be continued with the objective of evaluating the degree to which a deployable MPAR system can satisfy the national weather and air surveillance needs cost-effectively.”

- Dr. Paul Smith (Committee Chair) will provide more details later this afternoon
-

Review of Major MPAR-Related Activities

- **Integrated Surveillance CONOPS IPT**
 - § **JPDO-coordinated effort**
 - § **WG/MPAR Exec Sec participated in drafting CONOPS**
 - **Potential for multi-mission surveillance systems to provide data to meet other needs**
 - **WG/MPAR Exec Sec participating in defining Integrated Surveillance governance approach (ongoing)**
-

Review of Major MPAR-Related Activities

8

FAA (and MIT/LL)

- **Designed and built dual pol phased array panel**
 - § **Will hear more in Session 6**
 - **Completed study that examined feasibility of using multifunction phased array radars as a backup for ADS-B**
 - § **Considered items such as network configuration, scan strategies, and radar characteristics**
 - § **Conclusions:**
 - **Accuracy of the MPARs would be comparable to ADS-B for aircraft surveillance**
 - **Weather surveillance would be much superior to existing weather radars...**
-

Review of Major MPAR-Related Activities

FAA

- **Sponsoring Georgia Tech Research Institute Study**
 - § **Defining the technical issues**
 - § **Will hear more in Session 6**
 - **Initiated contract to support Technical Assessment Program**
 - § **Will hear more in Session 6**
-

Review of Major MPAR-Related Activities

NOAA

- **Completed numerous severe weather case studies involving NWRT Phased Array Radar**
 - § *Rapid Sampling of Severe Storms by the National Weather Radar Testbed Phased Array Radar (AMS Weather and Forecasting)*
 - **Drafted 20-year Weather Radar Vision planning document**
-

Review of Major MPAR-Related Activities

DOD: Army

ARMY Digital PAR Program Review

- **Army-sponsored R&D**
 - § **Designed and built digital array radar panel**
 - § **Will hear more in Session 6**
 - **Review held April 24, 2009; hosted by L-M**
 - **Participants included Purdue University, Sierra Monolithics, CREE, Army CERDEC, Exec Sec WG/MPAR**
-

Review of Major MPAR-Related Activities

DOD: Army

EQ-36 Technical Exchange Meeting (TEM)

- **EQ-36: Counterfire Target Acquisition Radar System**
- **TEM held August 11-12, 2009 (L-M and SRC, Syracuse, NY)**
- **Participants included Army, L-M, SRC, NOAA/NSSL, OFCM, FAA, MIT/LL**
- **Explored potential of using Army EQ-36 or its prototype as a risk-reduction platform**
- **Will hear more in Session 6**



Review of Major MPAR-Related Activities

DOD: Navy

- **Validated military usefulness of weather data extracted from hybrid PAR surveillance radar onboard US Navy ships**
 - § **Specialized processing to extract accurate data from the tactical radar scan**
 - § **Will hear more in Session 5**

DHS

- **Sponsored research regarding mitigation of wind farm affects on surveillance radars**
-

Symposium Objectives

- **Review MPAR risk-reduction implementation strategy**
 - **Discuss MPAR multifunctionality with respect to agency needs, priorities, and principles of operation**
 - **Review the progress of MPAR-related research and development**
 - **Highlight potential service improvements with respect to air surveillance (including threats), weather, and other mission enhancement opportunities**
 - **Explore the challenges to delivering a cost-effective phased array radar capability**
-

Expected Symposium Outcomes

- **Gather additional information regarding:**
 - § **MPAR concept of operations and requirements**
 - § **Current and future management approaches and strategy for moving forward**
 - § **Need to perform cross-cut studies that lead to detailed cost-benefit analysis**
 - § **MPAR technical issues and additional evaluation actions to be conducted by:**
 - **Federal laboratories**
 - **Industry**
 - **Academia**
 - **Other Federal element sectors (e.g., frequency management)**
 - **Opportunities to leverage existing technology**
-

Symposium Agenda / Activities

This Afternoon

Panel Discussion: MPAR Potential and Interagency Collaboration: A Senior Leader Perspective

Moderator: **Dr. John Snow**, Dean, College of Atmospheric and Geographic Sciences, University of Oklahoma

Panelists: **Dr. Richard Spinrad** , Assistant Administrator for Oceanic and Atmospheric Research (NOAA)

Mr. James Williams, Director of Systems Engineering, Federal Aviation Administration

Mr. Kevin “Spanky” Kirsch, Director, Science and Technology Special Programs, Department of Homeland Security

Mr. John Stubstad, Office of the Director of Defense Development and Engineering, Office of the Secretary of Defense

Symposium Agenda / Activities

Later This Afternoon and Evening

- **Mr. Jud Stailey**, Senior Staff Meteorologist, OFCM, MPAR Risk-Reduction Implementation Strategy
- **Dr. Paul Smith**, Chair—NRC Committee on the Evaluation of the MPAR Planning Process, Evaluation of the MPAR Planning Process
- **Session 1: Multifunctionality—Agency Needs, Priorities, and Principles of Operation**

Moderator: Dr. Fred Lewis, Air Force Director of Weather

5:30 – 7:00 pm: Reception/Ice Breaker and Vendor Exhibits in National Weather Center Atrium (hors d'ouvres/cash bar)

Symposium Agenda / Activities

Wednesday & Thursday Morning

- **Wednesday: Sessions 2-5**
 - **Thursday**
 - § **Sessions 6-7**
 - § **Review action items**
 - § **12:00 pm: Adjourn symposium**
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