Santa Clara County
ARES / RACES

Mutual Aid Communicator Program Enhancements

Aug 13, 2009

Agenda

- New Pre-MAC Training

- New Performance Standards

- Entrance Requirements

- New Qualification Program

Pre-MAC Training

Pre-MAC Training Needs

- Situation:
  - Many cities have no regular training program
  - Some cities have substantial city-level training programs
    - Out of necessity, includes county-level methods and procedures (extra, redundant of effort; lack of standardization)

- Requirement
  - Make it easier to get new hams up to speed
  - Cover basics and county procedures in a standard way
  - Offer frequently to get new hams interested quickly

- Solution
  - New Pre-MAC training

New Course:
Introduction to Emergency Communications

- Audience
  - New Hams – raise interest in, excitement about EmComm
- Topics
  - VHF/UHF simplex and duplex (repeaters: tone, offset)
  - Voice operating techniques (when/what to say, phonetics)
  - Working with directed nets (with exercises)
  - Additional EmComm modes (packet, APRS, ATV, HF)
  - Radios and accessories for EmComm
  - EmComm organizations (county; SPECS/SVECS, cities)
  - On-air exercise
- Interactive and fun: includes several video and audio recordings; interactive, fun exercises

New Course:
Fundamentals of Emergency Communications

- Audience
  - Graduates of *Introduction to Emergency Communications*
  - Experienced hams new to EmComm or new to SCC procedures
- Topics
  - DSW program details (benefits, requirements for coverage)
  - County net usage (resource, message, command, tactical, …)
  - Mobilization & demobilization
    - Details of three levels of Resource Net operations
    - Step-by-step details for interacting with the Resource Net
  - Message passing
    - SCC ICS 213 Message Form (with exercise)
    - SCC ICS 214 Log
  - Fundamentals of Net Control (with exercise)

How to Use the New pre-MAC Courses

- Taught by cities on a rotating basis (additional to county schedule)
- Currently scheduled
  - Introduction – Los Altos, Aug 29th; Instructor: Michael Fox
  - Fundamentals – Mountain View, Oct 3rd; Instructor: Jerry Haag
- Observe, then teach
  - Content is introductory, fundamentals
  - Delivery/exercises can really benefit from experienced instructor
  - Before teaching, observe a class to see how it's done
- Going Forward
  - Teach at least "Intro" (ideally, both) on a quarterly basis
  - Recommend follow soon after quarterly ham-crams (~100 new hams!)
  - Next ham cram scheduled for Oct 17th (www.baears.com)
  - **ACTION: Who will host one or both after the Oct 17th ham cram?**
  - If you can host but need an instructor, ask for help

MAC Performance Standards

Becoming a MAC: Are We There Yet?

- From non-MACs
  - What does it take to be a MAC?
  - How do I know when I'm good enough?
- From MACs:
  - What is expected of me?
  - Are there any guidelines for performing my assignment?
  - How do I know if I'm doing everything correctly?
- From leaders
  - Is there a standard applicable across the county?
  - When should I recommend someone for the MAC program?
- Observed
  - Consistency could be improved

New MAC Performance Standards

- An itemized, detailed, objective set of standards by which all MACs should perform their duties, all of the time

- Distilled from MAC training courses and best practices

- Short-hand, detailed version of how to perform EmComm

- Useful for:
  - Driving consistency of performance among all MACs
  - Objective, standardized evaluation criteria

Summary of MAC Performance Standards

- Professionalism
  - Assignment, team member, served agency, independence, training
- Communications Technique
  - Verbal comms, radio technique, written comms, call signs,
- Safety
  - Personal safety, fatigue, stress, cold, heat, lightning, floods, land/mudslides, earthquakes, fire
- Methods and Procedures
  - County nets, resource net, message passing, maintaining contact, logging and record keeping, served agency protocols, relieve briefings
- Equipment
  - Go kit, maintaining control over radio, HT equipment, mobile equipment, packet equipment, HF equipment
- Documentation
  - Personal documentation, operations documentation; forms

Example from MAC Performance Standards

- From Communications Technique section:
  - "Verbal communications is effective, clear and concise
    - Maintains a clear speaking voice
    - Controls tone of voice, even under stress
    - Has a good command of the English language
    - Uses plain English, no 10-codes, Q-codes, etc.
    - Properly uses/pronounces letters and numbers
    - Properly uses phonetics and can recite all ITU standard phonetic letters
    - Properly speaks numbers, including multi-digit numbers and decimal points
    - . . .
  - "Radio technique is effective
    - Makes only necessary transmissions
    - Leaves pause at beginning of transmission to allow repeater to key up
    - Leaves sufficient gaps between transmissions for others to break in
    - . . .
  - . . .

MAC Performance Standards Usage

- All MACs should
  - Maintain a copy of the standards in their go-kits or clipboards
  - Review prior to planned event, equipment purchase
  - Reference during any event or incident
  - At all times, make every effort to follow all standards
- All persons who evaluate MACs should
  - Use these criteria to objectively assess MAC performance
- Everyone
  - Submit feedback to continue to make these standards more useful

Entrance Requirements

Existing Program Entrance Requirements

Meets all entrance requirements:
- Administrative requirements
- Training requirements
- Equipment requirements

→ City EC Recommendation → CRO Acceptance → **MAC**

- Candidate must meet minimum requirements

- City EC recommends candidate when ready
  – Has largely been a subjective decision

- County RACES Chief Radio Officer can accept or decline the recommendation

- Once accepted, the individual becomes a MAC

Feedback Heard

- **From MAC Candidates:**
  - Need better documentation of requirements
  - "What do I need to do?" -- Need a clearer target to shoot for
  - "How do I know when I'm ready?"

- **From ECs**
  - Need better documentation of requirements
  - Need objective way to evaluate when candidate is ready
  - Need standardized, documented recommendation process

- **Observed**
  - Need consistency between cities

Entrance Requirements

Familiar Process:

| Meets all entrance requirements | → | City EC Recommendation | → | CRO Acceptance | → | MAC |

Enhancements:

Itemized, standardized entrance requirements
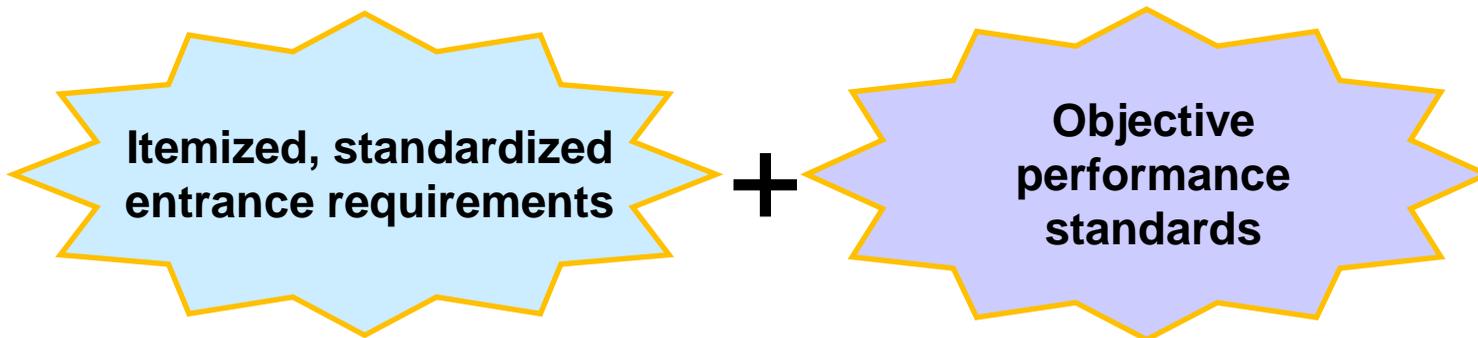
Improved Program Documentation

- MAC Program Entrance Requirements
  - Administrative
    - 18 years old; Amateur Radio lic.; CA drivers lic.; County DSW; etc.
  - Equipment
    - 2m/70cm HT; mag mount antenna; headset; batteries; etc.
  - Training
    - New pre-MAC training (or equivalent)
    - FEMA requirements (IS-100, IS-200, IS-700 or equivalent)
  - Participation recommendations
    - Net check-ins, drills, public service events
  - Performance
    - References MAC Performance Standards
    - Detailed, itemized, objective performance targets for candidates
- More clear, specific, standardized; better documented

Entrance Requirements

Familiar Process:

Meets all entrance requirements → City EC Recommendation → CRO Acceptance → **MAC**

Enhancements:

Itemized, standardized entrance requirements **+** Objective performance standards

Standardized Recommendation Process

- Question 1: Has the candidate met all of the itemized entrance requirements?
    - Administrative
    - Equipment
    - Training
    - Participation

- Question 2: Does the candidate have the maturity and experience to operate according to the MAC Performance Standards?
    - If not or if unsure: recommend additional training, drills, events

Entrance Requirements

Familiar Process:

Meets all entrance requirements → City EC Recommendation → CRO Acceptance → **MAC**

Enhancements:

Itemized, standardized entrance requirements + **Objective performance standards** = **Greater consistency**
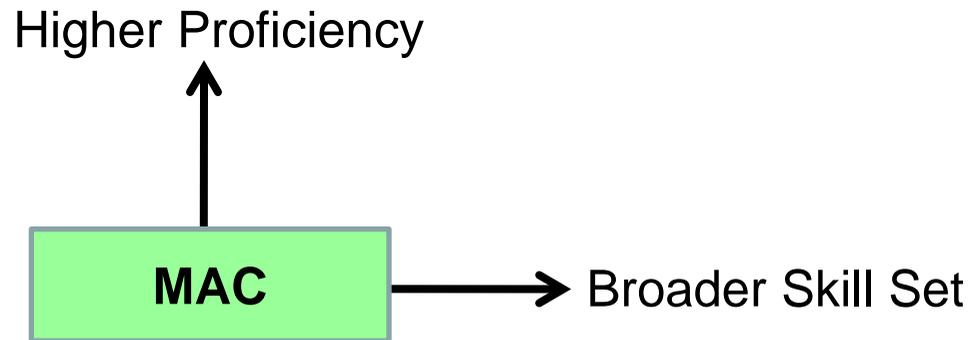
Enhanced MAC Program

Beyond the Basics

Becoming a MAC is Just the Beginning

- Opportunities
  - Broaden skill to more areas of EmComm
  - Gain higher proficiency in any or all skill areas

Higher Proficiency

MAC → Broader Skill Set

- Existing pool of MACs has widely varying skill sets
  - Some have a narrow set of skills; others have broad knowledge
  - For a given function; some are much better than others

How to Use Widely Varying Skill Sets?

Current Assignment Process:

Resource Request	→ Skills Needed?
MAC	→ Skills Available?

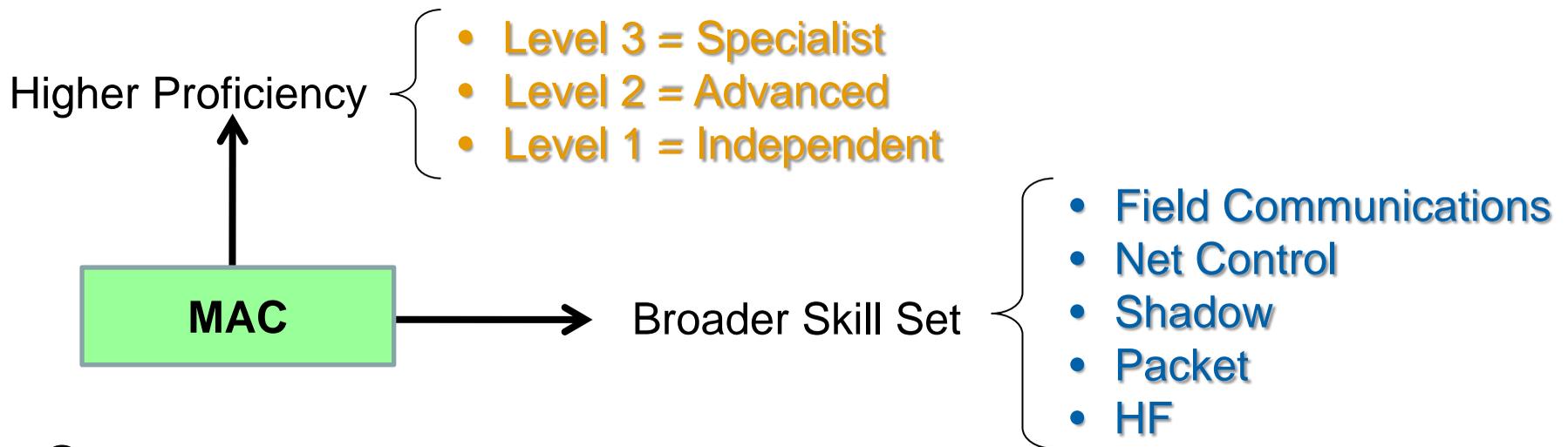Match **?** → Assignment to county or other mutual aid request

- Requesting resources
  - What types of resources are available to request?
  - How does served agency request specific type of resource?
  - When a resource arrives, what capabilities does he/she have?

- Assigning resources
  - How many MACs do we have that can do X?
  - How does net control know which MAC has which capabilities?

- We currently use individual knowledge to fill the gap
  - But who can know everyone's skill level? … It's a problem.

HOW We Solve the Problem is Important!

- Remember – we're all volunteers:
  - We want to help, but we have other things to do
  - If it becomes a bureaucracy, we just won't bother helping at all
- DON'T create a bureaucracy that:
  - … has complex rules; extra paperwork; jumping thru hoops
  - … requires MACs to attend extra drills or meetings, or …
  - … requires extra effort from the cities; they're already tapped out
- DO create a solution that:
  - … is based on what we already do, where & when we already do it
  - … standardizes resources (resource typing)
  - … provides recognition for a job well done
  - … is voluntary

MAC Qualification Program

- A program to standardize, qualify, identify and recognize the emergency communications skills of amateur radio operators

- Structure:

Higher Proficiency
- Level 3 = Specialist
- Level 2 = Advanced
- Level 1 = Independent

MAC → Broader Skill Set
- Field Communications
- Net Control
- Shadow
- Packet
- HF

- Current status:
  - Definition nearing completion, draft documents, requesting feedback

MAC Qualifications at a Glance

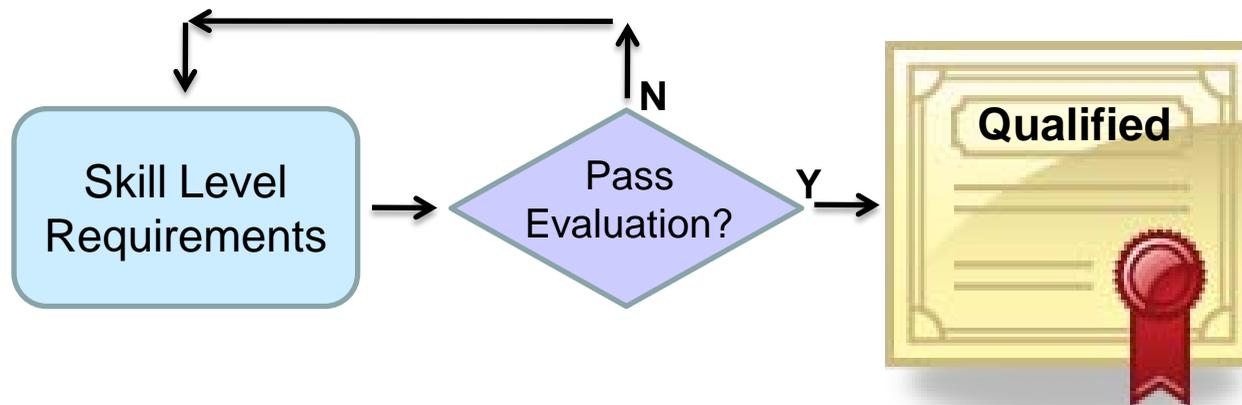| Expertise	Skill Areas				
	Field Comms	**Net Control**	**Shadow**	**Packet**	**HF (future)**
Specialist	Field Comm 3	Net Control 3	Shadow 3	Packet 3	HF 3
Advanced	Field Comm 2	Net Control 2	Shadow 2	Packet 2	HF 2
Independent	Field Comm 1	Net Control 1	Shadow 1	Packet 1	HF 1
Basic	Mutual Aid Communicator				

We will focus initial efforts on key Level 1 qualifications

Example: Field Communicator 1

- Capabilities and Services
  - Fully independent field communications assignments
  - Equipped with dual-band HT and appropriate accessories
  - Deploy up to 8 hour shift (prepared for 12 hrs)

- Typical assignments
  - Field checkpoints
  - Damage surveys
  - Rover
  - Crowd observation, lost child assistance
  - CERT team communicator

Earning a Qualification is Straight Forward

- Candidate completes requirements for the skill level
  - Prerequisites
  - Training
  - Participation
- Candidate undergoes a standardized evaluation
  - If passed, qualification is recorded in county database
  - If not, practice, then try again

Example:
Field Communicator 1 Requirements

- **Prerequisite**
  - Current MAC status

- **Training**
  - Santa Clara County training topics
    - Nets, Forms, Message handling, Safety, Go Kit, Field procedures
  - FEMA Certified Training (from SCC or FEMA website or …)
    - IS-100, IS-200, IS-700

- **Participation**
  - Minimum of 8: monitor weekly SPECS or SVECS net
  - Minimum of 8: check-in on weekly city net
  - Minimum of 1: county drill (may be quarterly or MAC drill)
  - Minimum of 1: approved public service event

- **Evaluation typically arranged during one of the above**

Example:
Field Communicator 1 Evaluation

Evaluation

- Demonstrate proper mob/demob process (Resource Net)
- Check-in/out on ICS 211 Communications Check-in form
- Demonstrate personal HT familiarity
- Pass low-to-medium rate traffic for one hour
- Maintain log on ICS 214 log form
- Demonstrate Go-Kit contains minimum radio equipment
- Demonstrate Go-Kit contains required 12-hour items
- Explain purpose and usage of main county nets
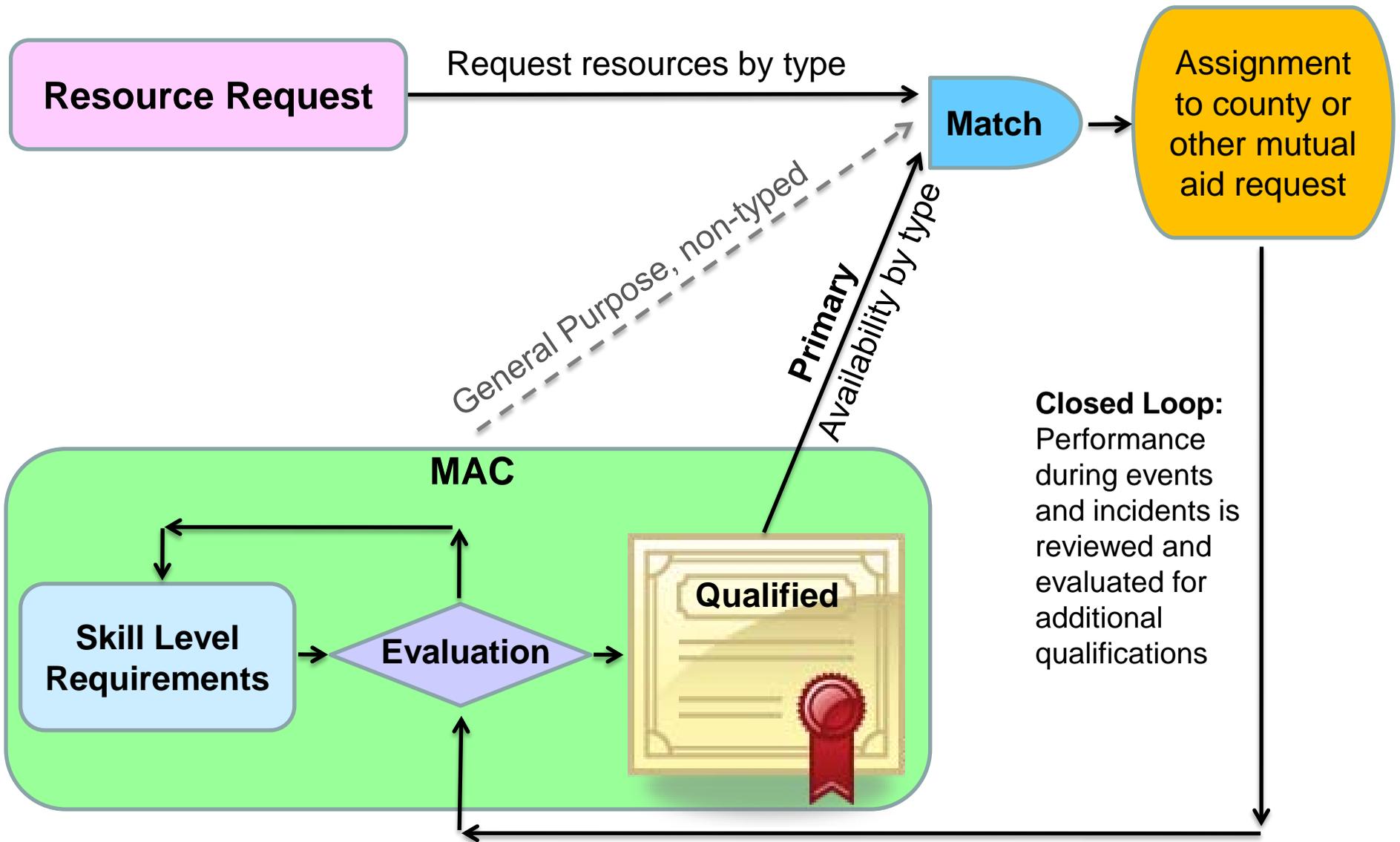- Deal with problems (or explain how)

It's what we all do (or should do) at every drill or event!

Qualification Earned

- Qualification earned when all requirements met and evaluation passed

  – Must be completed within two year period

- Certificate printable from county database

  – Easy to administer, saves postage

  – Print on high quality paper for framing

  – Numbered serially (will you get there first?)

- Credentials for back of MAC badge or wallet

  – Convenient reminder; show to staging manager; etc.

- Maintain active status through continued participation

Migrate to New MAC Assignment Process

Resource Request — Request resources by type → **Match** → **Assignment to county or other mutual aid request**

General Purpose, non-typed

Primary — Availability by type

MAC

Skill Level Requirements → **Evaluation** → **Qualified**

Closed Loop: Performance during events and incidents is reviewed and evaluated for additional qualifications

Existing MACs Are Still MACs

- The MAC is the foundation of the program
- Qualifications build on top of basic MAC skills
  - Completely optional
- No change to existing MAC status
  - New minimum participation to maintain active status
  - Specifics under review
- A "MAC" is still someone who has:
  - Met the minimum entrance requirements
  - Continues to participate in the MAC program

Implementation Timeline Highlights

Date	Action
Aug 13	EC Council – program presentation, request for feedback
Mid-Aug	Program documentation draft for review, feedback
Aug-31	Round 1 feedback due
Early Sep	Program documentation v1.0
Sep	More internal development • Evaluator training and initial qualifications bootstrap • Training course updates • Database development and test • Procedure updates • Program documentation updates
Sep +	Documentation updates; Continuous feedback going forward
Oct 17-18	First evaluations; currently planning with Cupertino
Oct-Nov+	Learn what works and what doesn't; update program

Questions, Comments, Feedback

Questions, Comments, Feedback

- Feedback, comments, questions
  - Michael Fox: N6MEF@arrl.net

- Program information, documentation (including this preso)
  - http://www.scc-ares-races.org/mac

- Discussion – MACs helping MACs
  - Yahoo Group: scc-mac-discuss
  - http://groups.yahoo.com/group/scc-mac-discuss
  - Discuss MAC-related topics: procedures, equipment, best practices. Anyone interested in MAC activities is welcome.
  - Note: Existing SCC-RACES-MACS group remains for announcements

Thank You