A QUALITATIVE ANALYSIS OF CONTINGENCY RESPONSE ELEMENT COMMANDER AND OPERATIONS OFFICER TRAINING

GRADUATE RESEARCH PAPER

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Abstract

This research examines the training programs for Contingency Response Element Commanders and Operations Officers (CRE CC and DO) in the 621st Contingency Response Wing (CRW). Through a qualitative process, this study conducts semi-structured interviews of recently qualified CRE CCs and DOs and a content analysis of the training documents and syllabi to identify themes and factors that affect the quality of training content and processes. Additionally, it explores the potential benefits of using structured training aids such as formal syllabi and simulator tools to conduct upgrade and continuation training.

The research identifies factors in the training program that explain the causes of variation in a candidate's training regimen and variation in the training processes. Using the levels of cognitive domain framework, the research finds anecdotal evidence from CRE CCs and DOs and the document analysis of the benefits of utilizing a structured process to enact the training program. Ultimately, the research shows a clear need to implement an overarching training strategy that gives candidates the space to exercise in scenario-based training environments to gain experience in a range of contingency response operation missions.

To my family, friends, and many USAF Mentors…thank you!

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Joshua Messer

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A QUALITATIVE ANALYSIS OF CONTINGENCY RESPONSE ELEMENT COMMANDER AND OPERATIONS OFFICER TRAINING

I. Introduction

Background

The 621st Contingency Response Wing (CRW), headquartered out of Joint Base McGuire-Dix-Lakehurst (JBMDL), is the only Air Force operational wing that is designated to "provide mobile air mobility support capability" (LeMay Center, 2019). Organized under the 621st CRW are two groups: The 821st and 621st Contingency Response Groups (CRGs), located at Travis Air Force Base and JBMDL, respectively. These groups are charged with presenting and deploying tailorable and standardized force modules designed to open temporary airbases in austere locations to serve Air Force, sister service, or coalition components as needed (LeMay Center, 2019).

The CRGs have executed dynamic missions from humanitarian assistance, deployed operations, to hurricane response. In 2014, the 817th CRG conducted Joint Task Force - Port Opening (JTF-PO) operations in Liberia to bring aid to those affected by the deadly Ebola virus outbreak in Africa. In 2015 a CRE deployed to establish an airbase in northern Iraq for Operation INHERENT RESOLVE (OIR). In 2016, the 621st CRG was tasked to support JTF Matthew after a hurricane devastated Haiti. Most recently, in 2019, the 621st CRG reopened Prince Sultan Air Base in Saudi Arabia for continued combat operations.

CRG missions remain a top priority for Air Mobility Command (AMC). An objective of the November 2020 AMC Strategy calls for increasing the Global Air Mobility Support System (GAMSS) "agility, lethality, resiliency, and survivability to generate combat power in contested environments" (AMC, 2020). Despite this strategic emphasis, little analysis has been conducted to assess how the CR forces train to prepare for their tasked missions. Due to organizational changes at AMC staff and in the 621st CRW, training, and evaluation related to measuring mission effectiveness has not been addressed. To achieve AMC's strategic objective, the CRW must explore avenues for deliberate and structured training for its tactical leaders.

This research seeks to thoroughly examine how the CR forces are organized and trained to conduct operations ranging from humanitarian assistance to contested environments. The CRW is one of the most diverse Wings in the Air Force, comprised of more than 21 Air Force Specialty Codes (AFSCs), executing a range of tasks and functions that exist outside of those core specialties. While there are many training programs tailored to each AFSC in the CRW, this research will primarily focus on the officer crew positions of the Contingency Response Element Commander (CRE CC) and CRE Operations Officer (CRE DO) training programs. Analyzing the CRE CC and DO programs will reveal underlying training trends in the other AFSC and CR crew position training programs.

Unlike other Air Force Wings, the 621st CRW is unique in that it typically is not the first assignment for any of the enlisted or officer positions. The majority of the Unit Type Codes (UTCs) that wing personnel fill require that individuals have received their

AFSC qualifications and certifications from their previous assignment. The same is true for the majority of the leadership positions in the CRW. CRE CCs and CRE DOs are primarily made up of rated officers that were previously mobility Pilots or Navigators in their individual airframes (ranging from KC-135s, KC-10s to C-130s, C-17s, and C-5s). While the previous aviation and operational experience is a vital pre-requisite for serving in CRE CC and CRE DO positions, several additional training and qualification programs are required for those individuals to be considered "Mission Ready" or "Qualified" as CRE CCs and CRE DOs.

To date, only individuals projected to fill the role as either a CRE CC or CRE DO receive both deployment and mission training for those positions. In other words, training is only offered to those who are currently assigned to the unit. The Contingency Response Squadrons (CRS) and the individual candidates are responsible for ensuring that the training is conducted per Air Force regulations and wing policies. Furthermore, training relies heavily on unit-funded exercises and inspections performed quarterly, semiannual, or annual. These exercises range from small-scale local training scenarios to large-scale training events. Small scale exercises are often conducted in a single day as Table Top Exercises (TTX), which only require those leadership positions (5-10 personnel) needed in the deployed Joint Operations Center (JOC). In comparison, large-scale training events are often in the form of United States Transportation Command's (USTC) exercise TURBO DISTRIBUTION, which is often one week to 10 days in a simulated deployed environment, requiring around 150 CR personnel and months of pre-planning and pre-deployment preparation.

Relying on "homegrown" TTX's and TURBO DISTRIBUTION exercises for CRE CC and CRE DO training can be problematic. Training events are not projected far enough in advance nor on a routine basis to make accurate forecasts for those who need the training opportunities. Additionally, consistency and standardization on how that training is effectuated vary significantly between each individual. While various experiences among individuals could be a positive attribute, the frequency of event training is often too small to be attributed as a true benefit. This research aims to review the current processes that enable CRE CC and CRE DO upgrade and proficiency training programs. The research will review data from individuals who went through those training programs and analyze the similarities and differences between them. Additionally, this research will examine the training and syllabus documents required by CRE CCs and DOs to become fully qualified.

Problem Statement

With the Air Force emphasizing the CRW's ability to generate combat power in operations ranging from humanitarian response to contested environments, it is imperative to evaluate the training content and processes that support those operations. Since the CRW's significant reorganization changes in 2016, the CRE CC and DO training programs have existed with relatively little analysis or changes in their content and processes. This research analyzes the impact of the current training content and methods to measure the effects of the non-standardized training processes in the CRE CC and DO training programs.

Research Objectives

The objective of this research was to evaluate the CRE CC and DO training processes through subject matter expert input and identify areas of the training processes that contributed to the quality of the training content and quality of the training processes. Additionally, it explores the potential for developing a training tool or aid that enables a more structured platform to conduct training operations. It describes the advantages and disadvantages of the current and proposed training methods and articulates the assumption that the required training events, dictated by the current training regulations, are valid to create and maintain a mission qualified CRE CC and DO.

Research Questions

The questions this research seeks to answer include: Should the CRW adopt an alternate training process or tool to conduct CRE CC and DO upgrade and proficiency training? What are the advantages of the current training construct? What are the disadvantages of the current training construct? What advantages can be gained by utilizing formal training instruments? What disadvantages are there by using a standardized training platform? Finally, this research asks what factors should be considered when defining an individual as mission qualified and current as a CRE CC and DO?

Research Focus

There are numerous CRG organizations outside of AMC: 36th CRG (PACAF), the 435th CRG (USAFE), 123rd CRG Kentucky Air National Guard, and other reserve

organizations. Due to the nature of the different missions in the respective CR organizations, this research will focus on the training processes that exist solely from the 621st CRW.

Methodology

A mixed methodology strategy will be utilized for conducting the research and collecting the data relevant to CR training.

First, a series of qualitative semi-structured interview questions were conducted to capture subject matter expert opinion on CRE CC and DO training. These subject matter experts included tactical level leaders from the 621st CRW, specifically field grade officers recently qualified as CRE CCs or DOs. The questions asked for relevant and recent information regarding individual training experiences. Furthermore, the interviews measured the willingness of change to allow for different approaches to upgrade and continuation training.

Next, a qualitative content analysis compared the 621st CR training documents with similar training documents managed by the 421st Mobility Training Squadron (MTS) from the USAF Expeditionary Center. The 421st MTS programs utilize formal training tools such as training feedback and standard syllabi to conduct upgrade and proficiency training. The MTS syllabus structure and content were analyzed to show applicability, differences, and similarity to the 621st CR training objectives in effective cognitive learning.

Implications

While the focus of this paper was solely on the 621st CRW's CRE CC and DO training programs, the implications of the analysis have broader applicability outside of the organization and internally to other 621st CRW processes. First, while the CR units that operate outside of AMC have nuanced and specific mission sets that differ from the 621st CRW, many of the core competencies required for mission qualification remain the same, thus offering insights into possible improvements to the training programs. Second, additional crew positions within the CRW, such as the Contingency Response Team (CRT) Chief and other leadership positions that work as a part of the Joint Operations Center (JOC) team, could benefit from this analysis. As this research will reveal, many of the upgrade and continuation training events require the JOC leadership team members to work and train together. An evaluation of the training process of CRE CC and DO positions will likely have a direct effect on other JOC leadership positions. Finally, this research may offer tactical leaders in the CR community and the process owners at headquarters AMC staff several options to pursue changes and improvements in the upgrade and continuation training regulations that guide "Mission Ready" CR requirements.

II. Literature Review

Chapter Overview

This chapter reviews relevant background information on essential processes and guidance on the CRW's training model. First, it examines the Department of Defense (DoD), United States Transportation Command (USTC), Air Force Doctrine and Instruction, and CRW Instructions that provide foundational requirements regarding the CRW's mission and training objectives. Moreover, this chapter describes what the CRE CC and DO training structure currently specifies as required training items. Specifically, it describes how these tasks are accomplished by reviewing the Command Joint Qualification Standards (CJQSs) and anecdotal training processes provided by the CRGs. Next, it looks at the current efforts of AMC staff projects from the Contingency Response Steering Group (CRSG) training charter and previous applicable research relating to the CR training efforts. Finally, this chapter analyzes formal academic literature on the science of training and the effectiveness of appropriately crafted training models.

Contingency Response Policy & Guidance

To understand the training objectives that CRE CCs and DOs must accomplish, the research must examine the strategic policies and higher headquarters guidance. Joint Publication 3-17 states that Contingency Response Forces (CRFs) "conduct expeditionary port opening operations…to enable rapid global mobility" (Joint Chiefs of Staff, 2019). Active-duty forces are trained to maintain a level of readiness that requires them to deploy within 12-hours of notification to conduct airfield assessment, airbase opening, and airfield operations for a limited duration (Joint Chiefs of Staff, 2019). This mission

is further elaborated in Air Force doctrine, describing CREs as tailorable and flexible units belonging to the Contingency Response Groups (CRGs) built to provide air mobility operation support to expeditionary locations where little to no support exists. The support capabilities include but are not limited to command and control (C2), aerial port, and aircraft maintenance of mobility assets (Lemay Center, 2019). These cross-functional CREs provide Combatant Commanders the flexibility and agility needed to respond to and operate within the complex environment of current and future missions.

While European Combatant Command (EUCOM) and Indonesia-Pacific Combatant Command (INDOPACOM) rely on their respective CRGs for a portion of their expeditionary mobility capabilities, USTRANSCOM relies specifically on the 621 CRW to provide Joint Task Force – Port Opening (JTF-PO) capability. The purpose of the JTF-PO is to "provide a joint expeditionary capability to rapidly establish and initially operate a port of debarkation, forward distribution node (FN), facilitate port throughput, and establish in-transit visibility (ITV) for cargo and passengers in support of CCDR executed contingencies" (USTRANSCOMI 10-27 Vol 2, 2013). A CRE from the 621 CRW, combined with the Army's Rapid Port Opening Element (RPOE), makes up the team which provides a 24-hour a day, seven days a week, 365 days a year alert force capable of responding to USTRANSCOM and supported CCDR contingencies and objectives.

In preparing for the possibility of such operations, USTRANSOM dictates the need for a JTF-PO training program to develop and sustain personnel and "joint unit skills, knowledge base, and expertise to conduct effective JTF-PO operations"

(USTRANSCOMI 10-27 Vol 2, 2013). Each CRE provided by the 621st CRW must conduct expeditionary mobility capabilities and successfully integrate those capabilities with the RPOE in the joint environment. USTRANSCOM makes it clear that individuals serving in key JTF-PO leadership positions must fully understand their role and mission within the joint operating construct. CRE CCs and DOs are central in this expectation as the Air Force's main body of leadership.

To build the knowledge and skills required to operate in the joint construct, CRE CCs and DOs first understand how their core teams work. As a tailorable and individual force, a CRE consists of approximately 115 personnel of various AFSCs tasked to provide the C2, aerial port, and maintenance of mobility aircraft capable of servicing a maximum on the ground (MOG) of two aircraft for 24-hour a day C2 and operations (AFI 10-202, June 2020). The CRE CC and DO are both charged with understanding and leading all phases of the CRE mission: Mission Planning, Pre-Deployment, Employment, Re-Deployment, and Mission Closure. Additionally, they are tasked with the command of any attached CR and support forces, liaison authority with the control agencies, host-nation personnel, and the transition to follow-on forces after initial airbase opening operations (AFI 10-202, June 2020).

While the CRE CC's and DO's previous operational experience as either a mobility aviator, maintainer, or logistician provide a broad functional understanding of the CR environment, the need for mission qualification training is critical for effective execution. Basic Mission Qualification Training (Basic MQT) is required for every member in a CR unit. CRE CCs and DOs must accomplish two formal training courses:

Field Craft Contingency Response (FCCR) and CR Mission Planners Course (CR-MPC), both executed and managed by the USAF Expeditionary Center. FCCR is 15 training days long and provides fundamental training in individual expeditionary skills and deployed operations (USAF EC, 2019). CR-MPC is five training days and teaches CRE CCs and DOs the principles and techniques for operating in the deployed environment, pre-mission planning, force protection, airfield survey, financial planning, and deployed legal responsibilities (USAF EC, 2019). Once complete with FCCR and CR-MPC, CRE DOs are considered Basic MQT complete.

Following Basic MQT, CRE CCs and DOs must accomplish CR Duty Position Training which "includes training necessary to meet assigned UTC mission capability statement requirements" (AFI 10-202, June 2020). How this training is managed is the responsibility of individual squadrons that CRE CCs and DOs are assigned to and the policies prescribed by the CRGs. At a minimum, CRE CCs and DOs must accomplish the MAJCOM/Unit Syllabus, an Off-station Mission, and CR MPC, as represented in Figure 1.

Table 6.1. CR Training Requirements.

	MAJCOM/Unit Syllabus	Orientation Mission***	Airfield Survey IQS	Airfield Pavement Eval	PCASE	LZSO Training	DZC/SO Training	SAAZA	DSCA, Level I	JHOC	CR MPC	Mobile C2	Mobile C3 Ops	AMC C2 Course	Notes
CRE Commander	X	X	X[6]						X	X[1]	X		X[1]	X[1]	Training can be concurrent with Ops Officer training.
CRE Operations Officer	X	X	X[6]						X[1]	X[1]	X		X[1]	X[1]	
CRT Chief	X	X	X[6]			X[1]			X	X[1]	X		X[1]	X[1]	Training can be concurrent with Ops Expeditor training.
CRT Member	X	X							X[1]		X[1]		X[1]		
Operational Advon Team	X	X	X[6]						X[1]		X[1]		X[1]	X[1]	Must be certified in primary CR force duties
Airfield Assessment Survey Team	X	X	X	X[1]					X[1]		X[1]		X[1]		Must be certified in primary CR force duties
Operations Expeditor	X[6]	X							X[1]	X[1]	X[1]		X[1]		
Civil Engineering	X[6]	X		X	X[1]	X		X[1]							

Figure 1: CRE CC & DO Training Requirements (AFI 10-202)

Current CRE Training Structure

Joint and Air Force doctrine and policies provide the overarching framework for "the why and what" the CRE training should be focused on. In defining the individual training criteria for CRE CCs and DOs, CRGs work specifically with AMC/A34 staff to determine the tactical level training items and how they are executed. The Command

Joint Qualifications Standard (CJQS) is the official form that lists the training tasks that candidates must accomplish for CRE CCs and DOs to fill the required UTC positions. The detailed CRE DO CJQS can be found in Appendix A. In total, it defines 117 individual training items that range from administrative setup, pre-mission planning, pre-deployment, deployment, employment, re-deployment, and post-mission operations. These items are deemed the minimal training tasks that each candidate must accomplish, and it is the discretion of the Squadron or Group Commander to add requirements as they see appropriate.

As the CJQS's define what items must be accomplished to complete CRE CC and DO training, then the Air Force Tactics, Techniques, and Procedures (AFTTP) for Contingency Response best lay out how to achieve those training items for any given mission. AFTTP 3-4.7 (Contingency Response) provides thorough and inclusive checklists for CRE CCs and DOs for accomplishing certain phases of the mission and the additional leadership and key duty positions that deploy with CR. CRE CC and DO candidates are expected to seek out current and qualified instructors in those respective positions to guide them through understanding the individual tasks. The instructor's responsibility is to certify those candidates by ensuring they demonstrate proficient knowledge in those specific tasks. Candidates utilize the CJQS, AFTTP 3-4.7, and instructor guidance to ensure they are satisfactorily accomplishing the training items.

Many critical training tasks are academic and can be accomplished with an instructor in a classroom setting. For example, task number 2.4 requires the candidate to "explain on/offload, maintenance service, crew change, RON, ground times" (Cat II CRE

Ops/Off CJQS, 2016). Another example of this is task 2.16, which asks candidates to "discuss completion of Standard Form 44, Purchase Order-Invoice Voucher" (Cat II CRE Ops/Off CJQS, 2016). The purpose of these tasks is to engage the candidate and test their knowledge of specific CRE procedures. There is no requirement for the candidates to accomplish these tasks during an exercise or operation.

Other CJQS tasks require the candidates to accomplish mission planning, deployment, and re-deployment tasks that candidates cannot complete in an academic environment. For example, tasks identified under Section 5, Employment: require candidates to "retrace station workload and mission details from GDSS," "operate portable generators," and "accomplish and distribute daily airflow/work schedule with appropriate team functions" (Cat II CRE Ops/Off CJQS, 2016). Along with guidance from AFI 10-202, these tasks direct CRE CC and DO candidates to accomplish these training events in an exercise format. The exercises could range from local TTXs, small off-station missions to large-scale exercises such as Exercise TURBO DISTRIBUTION which exercises JTF-PO capabilities. These exercises are scheduled into the training process and are typically managed by individual squadrons. Regardless of the size and scope of an exercise, there are always individuals in CRE CC and DO upgrade training participating in the events.

AMC CR Training Management & Proposed CR Training Model

The AMC/A34 staff, responsible for drafting and managing CR enterprise policies, has also prepared efforts to help shape future CR training models. The Contingency Response Steering Group (CRSG) Training working group acts as an

advisory committee which "focuses on ensuring that both formal and CR specific training is relevant to current operations and is postured for any modernization requirements" (CRSG Training Charter, Feb 2020). It comprises HQ AMC staff and SMEs from the various total force CR enterprise to include members from the 621 and 821 CRGs. While not focused explicitly on CRE CC and DO training development, the CRSG has drafted syllabus material for the "CR Team Chief" duty position. This training model aims to transition the CJQS training items into an official training syllabus that defines the training methods and grading criteria for the training events. The applicability of this effort has direct linkages to the CR CC and DO training programs and can act as an initial template for CR CC and DO training management.

Important aspects of the training syllabus, not defined in the current training processes, are the grading procedures and proficiency standards. The grading procedures are drawn directly from the Career Field Education Training Plan (CFETP) and Specialty Training Standards (STS). These procedures are not career field-specific. Instead, they have universally understood grading criteria that enable both the student and instructor to categorize and track students' progression throughout their training. (Draft Contingency Response Team Chief Certification/Qualification Guide, 2019). These performance and knowledge standards are depicted in Figure 2.

a. Performance and Knowledge Standards.

Code	Performance is	Definition
1	Extremely Limited	Individual can do most activities only after being told or shown how.
2	Partially Proficient	Individual can do most of the behaviors, but not necessarily to the desired levels of speed, accuracy, and safety.
3	Proficient	Individual can do and show others how to do the behavior in an activity at the minimum acceptable levels of speed, accuracy, and safety without the assistance of an instructor. For instructors, proficiency includes the ability to demonstrate, instruct, and supervise ground and flight activity.
4	Highly Proficient	Individual can do behaviors in an activity at the highest level of speed, accuracy and safety.

b. Event and Task Knowledge Standards.

Code		Definition
A	Fact and Nomenclature	Individual can identify basic facts and terms about the subject and when used with a performance code, can state nomenclature, simple facts, or procedures involved in an activity.
B	Principles and Procedures	Individual can explain relationship of basic facts and state general principles about the subject and, when used with a performance code, can determine step-by-step procedures for sets of activities.
C	Analysis, and Operating Principles	Individual can analyze facts and principles and draw conclusions about the subject and, when used with a performance code, can describe why and when each activity must be done and tell others how to accomplish activities.
D	Evaluation and Complete Theory	Individual can evaluate conditions and create new rules or concepts about the subject and, when used with a performance code, can inspect, weigh, and design solutions related to the theory involved with activities.

Note: An event and task knowledge standard scale value may be used alone or with an event and task scale value to define a level of knowledge for a specific task (Examples: B or 3C).

Figure 2: CFETP Training Standard Descriptions

To provide structure and predictability of exercise availability, the 821 CRG from Travis AFB crafted a "CRE Tiered Training Model." This model aims to create an operations forecast of what exercises are available for training throughout the year, and it categorizes the types of training exercises into four different tiers. Training Tier 1 - Introductory Contingency Response Training Events; Training Tier 2 - CRG and/or Squadron developed Off Station Trainers (OSTs) and Exercises; Training Tier 3 - Large-scale Exercises and Evaluations; Training Tier 4 - Actual JTF-PO Alert status.

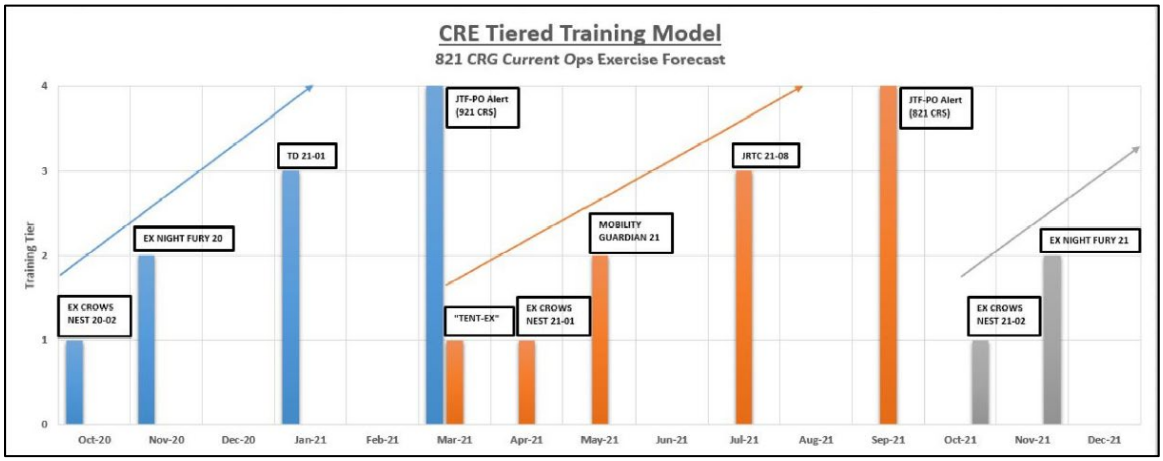

Figure 3: 821 CRG Proposed Training Model

This model provides a crawl, walk, run approach to training CRE CC and DO candidates, allows the CRG to manage student throughput, and includes continuation training of qualified members. Training Tier 2 and above require outside agency support and weeks of pre-mission planning and preparation. However, Training Tier 1 can be internally controlled and scheduled with little outside support required.

Exercise CROWS NEST is the 821st CRG's proposed exercise to accomplish Tier 1 type training for both CRE CC and DO candidates. It also serves more comprehensive leadership positions, such as the C2 and logistics positions, in accomplishing continuation training requirements. The primary objectives of the exercise focus "on CRE CC, CRE DO, and 1C3 development scenarios aimed at utilizing all available Functional Leads to solve numerous realistic problems" (821 CRG, 2020). Furthermore, its objective is to "allow for continuous validation of the readiness and preparedness of the 821st CRG JTF-PO alert force by imposing deployment scenarios which tests personnel responsive and adaptability" (821 CRG, 2020). This proposed model offers structure and scheduling predictability not offered in any of the previous processes.

Previous Contingency Response Research

There have been several research projects that have covered the topic of Contingency Response. Major Brad Bowyer of the 2015 Advanced Study of Air Mobility (ASAM) class studied the CRG organizational structure, which investigated CR operational capabilities within future fiscal constraints (Bowyer, 2015). His findings note that "the CRG was rarely able to exercise its full mission capability and a large portion of CRG AFSCs were underutilized in these training scenarios" (Bowyer, 2015). Major Ryan Durham, of the 2014 ASAM class, studied a similar theme of CR organization and utilization rates and specifically addressed the advantages of increased training synergy when CR units can predictably train together as a team (Durham, 2014). Additionally, Major Brian Mayer of the 2011 ASAM class analyzed maintenance training within the CRGs and concluded that CRG maintenance technicians needed additional training to be appropriately trained on basic maintenance tasks for contingency aircraft (Mayer, 2011). While these previous CR research projects anecdotally recognize the training challenges and the opportunity for training reform in the CR community, none of them address the challenges of the CRE CC and DO training and upgrade processes.

Major Timothy Sutphen of the 2018 Air Command and Staff College (ACSC) class recently researched obstacles to effectiveness in the airbase opening mission. His research findings most closely align with the themes of CRE CC and DO training challenges. Notably, his research found that "the AMC-owned CRGs have experienced difficulty enabling efficient training timelines for key leadership qualification functions" (Sutphen, 2018). Furthermore, he emphasized that "availability is lacking for scenario-based exercises with operational-level integration in real-world environments" (Sutphen,

2018). Those challenges identified have direct linkages to the CRE CC and DO upgrade and training programs. They identify that training timeliness and efficient processes have been a historical problem within the CR training programs and can be attributed to the lack of ability to regularly schedule and craft the appropriately sized exercises that represent real-world operations.

Academic Literature on Training

The science of training is a subject that has been widely studied in the physiological sciences, and it emphasizes critical characteristics in what is considered practical training. Several of these studies have asserted that training becomes most effective when properly designed, managed, delivered, and implemented. These studies have identified key components that create more effective training methods and successful instructional strategies. For example, for a training strategy to be considered effective, studies suggest that it should be crafted around four basic principles: First, it presents the relevant and applicable concepts they wish for the trainee to learn; second, it demonstrates the desired Knowledge, Skills, and Abilities (KSAs) to be learned; third, it provides ample opportunity to practice those KSAs; and fourth, it provides relevant feedback and correction as needed to shape those KSAs (Salas, Cannon-Bowers, 2001).

The third principle of providing ample opportunity to practice KSAs is worth exploring further. Research shows that "when trainees actively practiced…role-play exercises and received feedback on theirs skills...they demonstrated significantly greater team performance-related assertiveness" (Salas, Tannenbaum, Kraiger, Smith-Jentsh, 2012). The same research has suggested that trainees must be given the same type of

training opportunities which require the "same cognitive process they will need to engage in" for real-world requirements (Salas, Tannenbaum, Kraiger, Smith-Jentsh, 2012). Combining the aspects of allowing for training with conditions that engage the appropriate cognitive skills required for real-world operations becomes a critical component when developing training design.

One aspect that has been explored to enable these principles is the use of technology in the training environment. For example, early research has suggested that the use of technology regarding training has become increasingly popular and allows for increased adaptive guidance, which improves "trainees' study and practice effort, knowledge acquired, and performance" (Aguinis, Kraiger, 2009). More specifically, the use of simulation tools has become a key resource when designing and implementing training. Both the airline industry and the military are prolific users of simulation aids to design training. They have shown favorable results to the point where the health care industry is beginning to adopt similar simulation-based training (Salas, Tannenbaum, Kraiger, Smith-Jentsh, 2012). What is important to note is that it is not necessarily the fidelity of the simulation itself that matters (simulation graphics that represent the environment). The scenario design, instructional features, and opportunities for measuring and diagnosing performance make simulations most effective (Salas, Tannenbaum, Kraiger, Smith-Jentsh, 2012). This point is further emphasized by stating that in simulation design and training environments, defining training objectives and allowing for the measurement of the training process and training outcomes fosters greater training effectiveness (Salas, Cannon-Bowers, 2001).

Summary

This chapter has presents relevant literature that was utilized in researching this study. It introduces guiding doctrine and applicable Air Force instruction that shape CR strategy and define CRE CC and DO training requirements. It also discusses how the CR implements those requirements by describing the current CRE CC and DO training processes and the management efforts from AMC staff, and the proposed training models offered by the 821 CRG to implement a structured training process. Finally, it gives an overview of previously researched CR topics and an introduction of academic literature that pertains to the science of training and the importance of training design and implementation.

III. Methodology

Chapter Overview

This chapter provides an overview of the primary methodology used to conduct this research. A mixed-method of case study and content analysis is used, and data were obtained using the following methods: qualitative interviews, headquarters staff documents, and training syllabi. This section provides a detailed review of how each method was employed and describes how each approach represents the qualitative data.

Research Design

The research is designed with a mixed methodology of case study and comparative analysis to analyze the CRE CC and DO training programs and answer the primary investigative research questions. Semi-structured interviews are utilized to generate the appropriate perspectives, from the interview participants, on the CRE CC and DO training programs. The semi-structured nature of the interview format allows the research to explore avenues of data that may not have been highlighted in a formal, structured environment. The content analysis portion of the research is designed to find trends in the CJQS and syllabus material with the "Levels of Cognitive Domain" framework. This analysis seeks to identify and measure the material effectiveness as it relates to mission qualification and certification.

Case Study Data Collection

Interview Participants

The research consisted of nine semi-structured qualitative interviews with qualified and previously qualified CRE CCs and DOs. Specifically, these subject matter experts are chosen due to their recency of qualification. Of the nine interviewees depicted in figure 4, 7 are qualified as either a CRE CC or DO within the previous three years, with the other 2 SMEs qualified within the previous five years. Moreover, the CR training programs and the USAF Expeditionary Center have adjusted and updated their training methods within recent years. Focusing on the recency of qualification allows for an accurate reflection of the current processes. Additionally, the interviewees are all field grade officers currently serving or having recently served in various positions at the squadron, group, and wing levels in the 621 CRW.

Rank	Contingency Response Qualifcation	Contingency Response Unit
Lt Col	CRE CC	621 CRG
Maj	CRE CC	621 CRW
Maj	CRE CC	821 CRG
Maj	CRE DO	621 CRG
Maj	CRE DO	621 CRG
Maj	CRE CC	621 CRW
Lt Col	CRE CC	621 CRG
Maj	CRE CC	821 CRG
Lt Col	CRE CC	435 CRG

Figure 4: Interviewee Demographics

Focusing specifically on members designated to fill the CRE CC and DO UTC requirements allowed for two aspects of the research. First, it afforded the specific and focused perspective desired for the research from individuals with the most up-to-date training. Second, while there are essential resource factors that shape training programs,

interviewing recently qualified CRE CCs and DOs garners unbiased data of the quality of the programs from a content and process perspective. Finally, only CRE CCs and DOs from the 621 CRW or with recent experience in the 621 CRW were chosen due to the JTF-PO requirement and its effect on the mission training objectives.

Interview Structure

The interviews were solicited via e-mail through the 621 CRG and 821 CRG leadership distribution lists. Due to COVID-19 restrictions and scheduling conflicts, interviews were conducted over the phone and ZOOM and were approximately 30 minutes in length per interview. Participants were given the questions ahead of time and a short description of the focus of the research. The researcher also solicited perspectives from the interviewees not covered by the interview questions. Using the semi-structured interview format allowed the researcher to glean aspects of information that may not have been necessarily considered in a strict and structured interview format.

Interview Questions

Question development was an iterative refinement process before being presented to the interviewees for the formal interviews. The questions aimed to solicit expert opinions on the overall quality of the CRE CC and DO training programs from these three perspectives: quality of content, quality of the process, and the potential use of training aids. At a minimum, the first four interview questions were directly asked to the interviewees since these questions were specifically designed to provide feedback on the individual's training experiences. Due to the semi-structured nature of the interviews, the last three questions were asked directly or indirectly depending on the interviewees'

response to the first four questions. The overall objective of the questions was to gain subjective opinions from the subject matter experts on the overall effectiveness of the CRE CC and DO training programs. The following questions were presented in the interview:

1. On a scale of 1-5, with five being the best, how well do you think the Contingency Response CC & DO training programs are designed regarding efficiency & effectiveness? Please explain.

2. In your opinion, what specific training items in the program could the Contingency Response CC & DO training process improve upon?

3. In your opinion, what specific areas of the Contingency Response CC & DO training do you find the most applicable in attaining Mission Qualified status?

4. In your opinion, are there enough training opportunities to maintain an effective level of readiness for CRE CCs & DOs both in the upgrade program and continuation training programs? (example: Robust TDY exercises such as TURBO DISTRIBUTION, Table Top Exercises, Base-level JOC Exercises, etc.)

5. In your opinion, could the Contingency Response CC & DO upgrade training and proficiency training criteria benefit from an optimized or standardized training regimen? If yes, what tools could be used to help optimize and standardize?

6. Other organizations outside of Contingency Response utilize training aides such as Training Simulators to conduct upgrade and proficiency training (Aircraft Simulators, Flight Line Simulators, Air Ops Center Simulators.) Could the Contingency Response CC & DO training programs benefit from such a tool? If yes, in what ways?

7. In your opinion, in what ways would having a Contingency Response "Joint Operations Center" Training Simulator negatively affect CC & DO upgrade and proficiency training?

Content Comparative Analysis Data Collection

Contingency Response Training Documents and Syllabi

Using the content analysis methodology, the following documents were chosen for comparison: the CRE DO CJQS, the Assessment Team (AM) CJQS, the CRT Chief

CJQS, the Contingency Response Mission Planners Course (CR – MPC) Syllabus, the Field Craft Contingency Response (FCCR) Syllabus, and the Mobility C3 Operations Syllabus. The training and syllabus documents were chosen due to their relevance in CR training programs. The FCCR, CR – MPC, and CRE DO CJQS are the required syllabus and training lists for members to become qualified as CRE DOs. The AM CJQS, CRT Chief CJQS, and Mobility C3 Operations documents are additional training programs within the CR community but are not necessary to obtain the CRE DO qualification. These are additional training programs within the CR and are used to compare and analyze the required training documents for thematically relevant content.

Content and Data Synthesis Framework

To analyze the related training documents appropriately, the NVIVO qualitative analytical software was utilized. NVIVO is an online qualitative data analysis software that allows users to program a specified framework to examine unstructured text, video, or audio files. The framework utilized in measuring the results was the "Levels of Cognitive Domain" (see Figure 5) which associates specific verbs with learning levels to describe the desired level of ability for task accomplishment.

LEVELS OF THE COGNITIVE DOMAIN AND EXAMPLES OF OBJECTIVES AND VERBS For SAMPLES OF BEHAVIOR

LEVEL OF LEARNING	SAMPLE LESSON OBJECTIVES	ILLUSTRATIVE VERBS FOR SAMPLES OF BEHAVIOR
EVALUATION - is the ability to judge the value of material presented in a lesson. The evaluation is concerned with the materials accuracy, appropriateness, or applicability for a given situation. Lesson objectives in this area are the highest and thus most difficult to obtain in the cognitive domain. Achievement of evaluation objectives indicates mastery of all lower levels in the cognitive domain.	**TOOTLIFEST:** (E) the role of joint doctrine (E) how the role of joint doctrine impacts national security	Appraise, compare, conclude, contrast, criticize, deduce, describe, discriminate, distinguish, explain, interpret, infer, relate, summarize, support
SYNTHESIS - is the ability to put parts together to form a new whole entity. This means after completing the analysis, the student can create new entities by putting together pieces to create a new whole. Objectives in the synthesis level stress creative behaviors, with verbs for SOBs focused on this creative action.	**TOOTLIFEST:** (S) the various roles of joint doctrine into a new iteration of joint doctrine (S) the various roles of joint doctrine into a new iteration of joint doctrine applicable to the next 20 years	Alter, arrange, categorize, change, chart, combine, complete, compile, compose, create, design, devise, develop, design, explain, generate, generalize, modify, organize, plan, rearrange, reconstruct, relate, reorganize, revise, rewrite, systematize, summarize, tell, write
ANALYSIS - refers to the ability to break down material into its component parts to determine the structure of an entity. This may include the identification of parts, study of the relationships of parts, and recognition of the importance of each part.	**TOOTLIFEST:** (AN) the roles of joint doctrine (AN) the roles of joint doctrine in achieving divergent objectives	Breaks down, contrast, criticize, deduce, diagram, differentiate, discriminate, distinguish, illustrate, infer, outline, point out, relate, select, separate, subdivide
APPLICATION - refers to the ability to use learned material in new situations. Lesson objectives at the application level require doing the action in a new environment, not just thinking about it.	**TOOTLIFEST:** (A) joint doctrine to a war time scenario (A) joint doctrine to a war time scenario to improve combat effectiveness	Access, assign, change, compute, conduct, construct, create, demonstrate, discover, develop, import, input, launch, login/out, manipulate, modify, navigate, operate, perform, predict, prepare, produce, relate, show, solve, subscribe, teach, transfer, use, verify
COMPREHENSION - refers to the student's ability to understand the material. This may be shown by: translating material from one form to another; by interpreting material such as explaining or summarizing; and extrapolating, that is, predicting the outcome of events based on material learned.	**TOOTLIFEST:** (C) the roles of joint doctrine (C) the roles of joint doctrine enhance combat effectiveness	Compare, contrast, convert, defend, describe, differentiate, distinguish, estimate, explain, extend, generalize, give example, infer, interpret, paraphrase, predict, rewrite, summarize, translate
KNOWLEDGE - refers to remembering material in the same form as it was taught.	**TOOTLIFEST:** (K) the roles of joint doctrine (K) how the roles of joint doctrine improve combat effectiveness	Define, describe, identify, label, list, match, name, outline, recall, recognize, reproduce, select, state

Figure 5: Levels of Cognitive Domain, USAF Expeditionary Center

The purpose of this framework is two-fold: first, it categorizes and measures the overall desired level of learning of each training document as reflected in the cognitive domain. Second, it will compare those categories to CFETP grading procedures

described in Chapter III. This process will describe the overarching desired learning levels represented in the training documents. The accuracy of this process was critical in ensuring the framework reflected the appropriate results; therefore, an iterative approach to coding was used with NVIVO. Primarily, word frequency, matrix coding query, and text search were used to process the data to ensure reliability and validity.

Summary

This chapter reviewed the mixed methodology utilized to conduct this study. The primary methods of case study and comparative content analysis were utilized to reflect subject matter expert opinion on the CRE CC and DO training programs and measure syllabus content against a desired level of learning. Together, these methods will represent a holistic perspective regarding the quality of the training program and reflect the analysis performed in the following chapter.

IV. Analysis and Results

Chapter Overview

This chapter examines the results of both the case study and the comparative findings produced in this study. First, it details the subjective ratings of the interviewee's response to the first question of the interview. Next, it describes the intention of the follow on interview questions and how answers fit within the categories described in the methodology: quality of content for CRE CC and DO training, the quality training process for CRE CC and DO training, and potential use of training aids or simulators. Finally, this chapter describes the comparative analysis results for the CR CJQSs and CR training syllabi under the cognitive domain framework described in the previous chapter.

Interview Results

Interviewee Ratings of CRE CC and DO training program

The first question intended to gain insight from interviewees on their perspectives of the CRE CC and DO training programs. Specifically, it was explained to interviewees to reflect on the training programs holistically in terms of efficiency and effectiveness. It provided an immediate assessment of the "beginning-to-end" training program for which the additional follow-up interview questions would contribute to the interviewee's score. Of the nine interviews, the average score for question #1 was 2.5, with 2 being the lowest score and 3.5 being the highest score. With a small sample size, it is worth highlighting that the mode was 2, with 5 of the interviewees rating the program lower than the average and outlier scores having a more significant impact on the overall mean. The interviewee's ratings are represented in figure 6. Reasons given for the average rating of

2.5 were attributed to several relating factors discussed separately in the individual interviews.

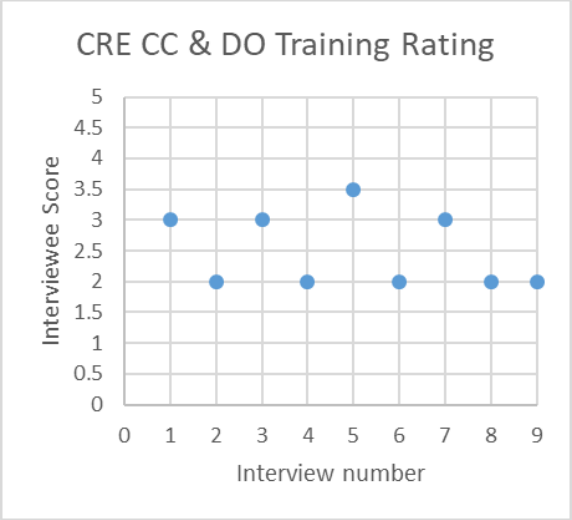

Figure 6: Interview Question #1 Results

It was generally agreed upon by all interviewees that the training program is overall effective. The training process through FCCR, CR-MPC, and the CRE CC & DO CJQS provides and produces a level of knowledge adequate for an individual to understand the CR mission responsibilities and the ability to operate under the acceptable levels of risk for mission accomplishment. Furthermore, interviewees discussed overall consensus that the need for off-station exercise experience for qualification, as outlined in AFI 10-202, was an effective and necessary requirement that added overall positive value to the training program.

While interviewees agreed regarding the program's overall effectiveness, additional factors that impacted the rating negatively were discussed. Program structure was a noted detractor from the overall rating, and that lack of structure contributed to gaps in producing consistent CRE CC and DO products with regards to experience.

Additionally, each of the interviewees noted that very little guidance was prescribed when setting expectations for accomplishing the CRE DO CJQS. Furthermore, the instructor-to-candidate relationship was not clearly defined to the candidates when starting the training process. It was generally agreed that it was incumbent upon the candidates to plan how they would accomplish the JQS and individually seek out an available CRE DO or CC instructor to assist in the certification.

It is important to note several inconsistencies among the interviews. Of the nine interviewees, no single method of accomplishing the CRE DO CJQS was the same as the other. For example, one candidate accomplished the entire JQS in three exercises: a TTX, off-station TDY, and TURBO DISTRIBUTION with a single instructor. In comparison, another candidate accomplished the training in five exercises: 3 exercises to the Joint Readiness Training Center (JRTC), an off-station TDY, and TURBO DISTRIBUTION with multiple instructors certifying the completion. Anecdotally, the upgrade timelines varied considerably among the interviewees. Several interviewees stated their time in training was approximately four months. Others stated their time in upgrade was approximately six months, with CRE CC training adding two additional months for a total time of 8 months in training. While interviewees did not directly discuss causal factors for these inconsistencies, standardization of process and exercise availability were frequently brought up and analyzed further in the following section.

CRE CC and DO training from a content perspective

Questions two and three aimed to subjectively gauge the CRE CC and DO training material from a content perspective. Specifically, the questions were designed

for the interviewees to provide feedback on the CR training course material and the CJQS documents as they relate to mission qualification and real-world applicability.

Of those interviewed, only two individuals had deployed with the CRW for real-world operations. The additional interviewees had been deployed for multiple CONUS exercises and off-station training events. In general, the content discussed can be categorized into two sections: operations and support. It was fully agreed upon that the training content reflected in the CR training programs was representative of mission requirements for exercises and in real-world operations.

The interviewees agreed that the CRE CC and DO CJQSs engaged candidates to a satisfactory level from a knowledge-based perspective. For example, it was noted that the CJQS required the candidates to "explain" either AFIs or deployed processes in order to demonstrate that the candidates understood CR processes and policies. From an application and employment-based position, it was agreed upon that the CJQS lacked specificity that would require individuals to demonstrate knowledge of how to execute CR from both an operations and support standpoint. For example, one interviewee noted that he understood the checklist and tactics material in the AFTTP 3-4.7 (CR Tactics). However, he did not fully understand how to employ the material until it was demonstrated to him by his instructor at an off-station exercise. Another interviewee noted that while he understood the pre-deployment process from an academic standpoint, he felt that problems while executing the pre-deployment phase of a mission would arise that were not necessarily covered in the CJQS concerning local base processes.

Additional themes were noted concerning the interviewee's assessment of the CRE CC and DO training content. First, the training content was reliant on instructor interpretation in terms of priority. If an instructor deemed certain aspects of the CJQS more critical than others, such as mission execution and re-deployment operations, then focus was shifted to those aspects of the CJQS for that training event. This was attributed to how an instructor's technique is based on their own experience rather than a defined training strategy. A second aspect considered how the variety of exercises shaped the way a CJQS was effectuated on an off-station mission. The priorities of that specific exercise have a direct influence on what type of training is accomplished. For example, exercise TURBO DISTRIBUTION focuses on joint integration with the RPOE and cargo-throughput, which causes a CRE DO candidate to focus on operations management. While other off-station exercises may not have the level of cargo flow to exercise operations, the focus is placed on expeditionary or support operations aspects of the CR mission.

CRE CC and DO training from a process perspective

Interview questions four and five were crafted to cause the interviewees to reflect on the CRE CC and DO training process. Those questions intended to define the training process in its entirety, understand the exercise and scheduling process and measure the level of standardization that was perceived to be needed for an optimized training regimen. Under the current construct, the research found that CRE CC and DO's training processes were considered effective due to the allowed flexibility for certification. For example, an interviewee explained that a CRE DO candidate is allowed to finish

unaccomplished CJQS items on their certification exercise when there were scheduling and exercise conflicts. The interviewees all emphasized that flexibility was an aspect of their training that was necessary to achieve certification without any additional changes to the current process.

The interviewees agreed that the portions of training conducted at the USAF Expeditionary Center, FCCR, and CR-MPC, were most effective when accomplished before conducting any additional CR training events. Coordinating course schedules with local training managers was not described as an area needing improvement by any interviewees. The most mentioned challenge was exercise scheduling and coordinating CRE CC and DO training into those exercises. The JRTC and TURBO DISTRIBUTION exercises were mentioned as predictably scheduled events for which a squadron could easily forecast and plan for candidates to participate. Other exercises, such as TTXs and off-station training, were more difficult to predict and schedule due to the following factors: manning availability, support from outside wing agencies, and cost.

While all the interviewees acknowledged that scheduling contributed to an unstructured process, interviewees gave different opinions on the number of exercises needed to be considered effective. Five interviewees stated that there are an adequate amount of exercise events. In contrast, four of the other interviewees expressed the perspective to have more frequent training opportunities. The rationale for an adequate amount of exercises was attributed to factors mentioned previously: manning availability, outside agency support, and costs. Reasons for increasing training opportunities were attributed to the need for more variety in experience for individual

candidates in order to prevent narrow perspectives. Despite disagreement in the number of training opportunities needed in the training process, it was mentioned by several of the interviewees that inconsistencies in training could be attributed to how those exercises are scoped regarding scale and objectives. Location of operations, cargo throughput, humanitarian operations, or operations in contested environments was attributable to how an exercise is shaped.

Perspectives on potential CRE DO and CC training aids

Interview questions six and seven were asked to gauge the level of interest in the feasibility of utilizing formal training mechanisms such as formal syllabus, controlled and standardized training processes, or the use of training aids such as the JOC simulator. Five of the interviewees expressed interest in creating a formal training syllabus to replace the CJQS and were aware of the efforts of the AMC staff to draft syllabus products. Four of the interviewees expressed concern with the idea of creating a syllabus. Interviewees generally agreed that a syllabus would add value by introducing structure but could detract from the flexibility needed to complete the training on time. All nine interviewees felt that training aids, such as TTXs or regularly occurring exercise reviews, could be internally controlled and designed through a training management process. Predictably scheduled TTXs with scenarios ranging from humanitarian assistance, JTF-PO, to operations in contested environments were among several of the potential scenarios mentioned that could be designed in a TTX format.

Interviewees generally agreed that the potential of a JOC training simulator would add value to the CRE CC and DO training program and add value for the additional JOC

leadership team members. Creating "off-the-shelf" scenarios that contractors could manage would alleviate the human resources burden from training managers responsible for crafting TTX scenarios and building training "injects" that generate critical thinking and problem-solving environments. This training method aligns closely with flight-line maintenance and C2 simulator programs. Those tools are managed by contractors and maintenance management personnel together, where they simulate flight-line management principles as a single team to generate aircraft launches.

Interviewees mentioned that the relationship between the CRS and the Air Mobility Operations Squadron (AMOS), which can replicate C2 elements in CRE operations, already produced aspects of a JOC simulator environment by providing simulated Air Tasking Orders (ATOs). Several limiting factors were mentioned regarding the use of a training simulator, one of which was the inability to replicate outside agency interactions, such as host-nation responsibilities or headquarters staff agencies. Another potential limiting factor mentioned was the ability to replicate the cargo throughput aspects in a CRE exercise and the inability to replicate the support elements in CRE operations, such as civil engineering, supply, or communications responsibilities.

Content Analysis Results

The content comparative analysis process was used to review and compare the related CRE CC and DO training documents. Using the framework: "Levels of the Cognitive Domain" mentioned in chapter IV, the keyword search function was utilized to code in the NVIVO software. The software reviewed the documents individually and

included stemmed word results, which categorized the words into similar groupings. Illustrative verbs chosen from the framework included, but were not limited to: "explain", "describe", "operate", "define", "identify", "plan", "design", and "complete". Additional statements were considered for relevance in CR content, but not necessarily within the cognitive domain framework such as: "cargo", "deploy", "aircraft", "procedure", "assessment", "airfield", and "tasks". These statements were associated with the illustrative verbs to scope the framework to show relevancy in CR tasks. For example, the coding categorized verbal statements such as: "explain airfield assessment," "define cargo procedures," or "identify aircraft." The coding did not consider statements and verbs used out of context, such as phrases in an index, glossary, or figure description in this method.

CJQS Results

The CRE DO, CRT Chief, and AM CJQSs were categorized together and displayed the following results:

Table 1: CJQS frequency percentage & categorization of level of cognitive learning verbs

Frequncey percentage & Catagorization of Level of Cognitive Learning						
	Evaluation	**Synthesis**	**Analysis**	**Application**	**Comprehension**	**Knowledge**
CRE DO JQS	4.37	3.08	1.15	2.34	3.57	1.18
CRT Chief JQS	3.13	3.24	1.74	2.20	2.66	1.38
AM JQS	1.30	2.16	0.43	1.30	0.86	2.16

The data suggests that the CRE DO CJQS emphasizes an evaluation level of cognitive learning, accounting for 4.37% of the document word count, the most out of illustrative verbs. At the same time, comprehension level of learning accounted for 3.57% of the word count, the second-highest count of the illustrative verbs. The data also shows

a relatively lower level of emphasis on application, analysis, and knowledge, accounting for 2.34%, 1.15%, and 1.18%. Compared to the other CR CJQSs, the CRE DO JCQS scored highest in the evaluation category and lowest in the knowledge category.

It can be argued that the results of the CJQS analysis are reflective of how the CJQSs are constructed. While they are not styled as a syllabus, the results show that the expected cognitive level of learning requires mastery of the material reflected in the CJQS and the ability to extrapolate and demonstrate an understanding of the mentioned content. The data interestingly suggests that CRE DO CJQS accounts for the highest percentage of application statements than the other CJQS, suggesting that CRE DO candidates must demonstrate appropriate actions in the learning environment compared to the other training programs.

CR Training Syllabi Results

The CR training syllabi, FCCR, CR-MPC, and CR C3 Operations that are managed and taught by the USAF Expeditionary Center were categorized and grouped together and displayed the following results:

Table 2: Syllabi frequency percentage & categorization of level of cognitive learning verbs

Frequncey percentage & Catagorization of Level of Cognitive Learning						
	Evaluation	**Synthesis**	**Analysis**	**Application**	**Comprehension**	**Knowledge**
FCCR Syllabus	0.14	1.35	0.43	4.19	2.12	0.72
CR MPC Syllabus	0.98	1.24	0.58	2.64	0.16	0.98
CR C3 Ops Syllabus	0.97	0.34	0.41	1.55	0.24	0.34

The results reveal that out of the total document word count, the illustrative verbs that fell under the application category had the highest percentage of verbs for all three syllabi analyzed. FCCR had 4.19%, CR-MPC had 2.64%, and CR C3 Ops had 1.55%. The category with the lowest percentage varied between the syllabi. FCCR's lowest

percentage was in the evaluation category at .14%, CR-MPCs lowest percentage was in the comprehension category at .16%, and CR C3 Ops lowest percentage was in the comprehension category at .24%.

The data reflected in the syllabus documents reveal that heavy emphasis is placed on the application portion of the cognitive learning domain, which is confirmed by the objective statements of each of the documents. FCCR, an expeditionary and field exercise heavy program, requires students to demonstrate their knowledge of the material by actively participating in field exercises and hands-on activities, culminating in a Field Training Exercise (FTX).

Investigative Questions Answered

Should the CRW adopt an alternate training process or tool to conduct CRE CC and DO upgrade and proficiency training?

The potential for an alternate training process or tool entails options such as restructuring the CQJS into a formal syllabus, scheduling regularly occurring and predictable training events, or creating a range of scenario-based JOC exercises for CRE CC and DO candidates.

Regarding the restructuring of the CRE DO CJQS into a formal syllabus, the research framework revealed several key points. Based on the content analysis, the data implies that there is potential for improvement in the application portion of the cognitive learning domain. Accounting for 4.19% of illustrative verbs, the syllabus formatting in CR training has the highest percentage of verbs that require learning in this domain. This learning domain is highly effective in ensuring that individuals have retained the skills

needed to be effective. Students must demonstrate knowledge of what they have learned through hands-on experiences and field exercises. This idea is further supported by the interview portion of the analysis, which noted themes that the CQJS content generates positive academic engagement but lacks application requirements to put learning objectives into action.

Generating predictable and regularly scheduled exercises and training events was noted in the analysis as a potential process that would enable more structured training. The 821 CRG tiered approach to categorizing exercises and generating local TTXs such as CROWS NEST supports this theme. Generating an effective program such as predictably scheduled TTXs, coupled in a syllabus format that would create scenario-based training events, would generate higher application learning events. However, the process management portion would be accountable to the local training managers, potentially creating a more significant human resources burden on the units.

What are the advantages and disadvantages of the current training construct?

Advantages and disadvantages were noted from both the interviews and comparative analysis portions of the results.

The current training construct gives squadron commanders and CRE CC and DO candidates the flexibility to accomplish the CJQS material in the training space that is available to them. Since off-station training events can be challenging to predict in the current construct, the needed flexibility is an essential component of the current training process. The predictability of exercises does not correlate with the CQJS material,

which, noted from the data, has the advantage of requiring a high level of evaluation-based cognitive learning compared to the syllabus construct.

Consistency in training and the lack of a defined instructor-candidate relationship were both noted as disadvantages. Lack of consistency was attributed to the unstructured nature of the current process and the varying objectives and DLOs across the different exercises, thus generating potential gaps in understanding. Additionally, the instructor-candidate relationship was emphasized as needing further analysis. Under the current construct, the roles and responsibilities of the instructor-student relationship is not clear. Instructors are not typically beholden to an overarching training strategy or focus. Instead, they are dependent on the nature of the exercise to shape the training focus.

What advantages can be gained by utilizing formal training instruments?

Utilizing traditional training instruments has several advantages as defined by the interviewees and the comparative analysis data. For this research, the term "formal training instruments" was defined by the data and is explained as formal syllabus, scenario-based training opportunities, and JOC simulator environment.

The use of a formal syllabus has several noted advantages. First, it provides the opportunity for engaged, application-based training on a structured timeline with clearly defined learning outcomes. Furthermore, a syllabus allows instructors and CRE CC and DO candidates to provide direct feedback on syllabus structure and content, allowing for opportunities to change or adjust the program based on current training strategies and priorities. Additionally, it will create an environment in which the instructor can provide timely feedback to the candidates on current performance. It allows instructors to grade

candidates based on the CFETP knowledge and performance standards mentioned in chapter III. This process will allow CRW leadership to better assess the performance and readiness of their CRE CCs and DOs by applying academic instruments to their training processes.

Utilizing scenario-based training opportunities, specifically in a JOC simulator environment, can provide experience to candidates not afforded under the current construct. For example, while not every member could deploy on recent real-world operations with the CRW, lessons were learned from that operation. A JOC simulated environment could potentially replicate those lessons for other training candidates. Furthermore, when utilized under a standardized and predictable training process, the ability to schedule and forecast training events becomes more clear to those managing the programs.

What disadvantages are there by using a standardized training platform?

Several disadvantages were noted from the data. Standardized training platforms are inherently stringent on how and when they are executed and taught. Therefore, the flexibility of scheduling and adapting training priorities is potentially lost. For example, under a syllabus platform, training managers are restricted to specific processes for updating the syllabus content and cannot adapt the content to the available exercises. Additionally, interviewees mentioned that standardizing the training platform could carry a large resource bill in terms of cost and manpower, compared to updating the internal wing training management processes.

Finally, it is worth mentioning that the interviews and content analysis data did not overly advocate or show an immediate need for rigorous, standardized training methods enacted by the CRW. This can be attributed to two factors: First, strict standardization would imply that the CRW has the authority to fully dictate and shape each exercise's scope and schedule, which they cannot do. The CRW is a partner organization that relies on outside agencies and units to assist in building their training exercises and must consider those organization's objectives and limitations. Second, interviewees noted that exercising in dynamic and semi-structured environments allowed for valuable training opportunities to arise that may not have arisen under a standardized platform.

What factors should be considered when defining an individual as mission qualified and current as a CRE CC and DO?

Content analysis data and interview data show that the training content presented in USAF Expeditionary syllabi and the CJQS were adequate and relevant in generating mission-qualified CRE CCs and DOs. An individual's experience in different categories of exercises (TTXs, JRTC, TURBO DISTRIBUTION, etc.) was noted as a positive attribute for creating a well-rounded CRE CC or DO. However, it was not considered a requirement to be mission qualified as a CRE CC or DO. An important factor for mission qualification was ensuring CRE CCs and DOs understand their range of authority to make decisions. Ensuring CRE CCs and DOs can make informed decisions in any environment was highlighted as a critical factor in ensuring a CRE CC and DO are fully mission qualified.

Summary

In summary, it was determined by the interview participants that while the CRE CC and DO training process does have areas for potential improvement, the overall content and program were deemed effective for qualifing CRE CCs and DOs. Additionally, the research determined that training aids such as a JOC simulator or scenario-based TTX have clear advantages that training managers can introduce into the training process by providing opportunities for exposure to mission sets not potentially seen under the current program. Moreover, the content analysis revealed that the CRE CC and DO CJQS require a higher evaluation-based cognitive learning environment than the CR syllabus documents, which was supported by the data gleaned from the interviews. Finally, while the analysis did demonstrate that utilizing formal training aids does produce higher levels of application-based learning, the information revealed from the interviews verified that it is not a necessary component in creating an effective training program.

V. Conclusions and Recommendations

Chapter Overview

This chapter provides a summary of the analysis that was conducted in the research. It also explains several of the limitations encountered when crafting the methodology for the qualitative data presented. Additionally, it provides recommendations for further research into CR training that would expand upon the analysis conducted on this topic.

Conclusions of Research

This research analyzes and evaluates both the CRE CC and DO training content and processes by identifying factors that contribute to variations in training in terms of quality and process. Additionally, it measures the potential advantages and disadvantages of structured training aids or tools to add predictability and forecasting into the programs. Research finds evidential factors which affect the quality of the training content, quality of the training process, and the potential for structured training aids in the CRE CC and DO training programs.

The data shows the quality of the training content to be relevant and effective when applying the concepts in real-world operations. The study results suggest that the CJQS content requires candidates to demonstrate material knowledge in an academic and static environment. In contrast, the syllabus content requires students to demonstrate the material through the application of principles. Academic literature states that training programs are considered most effective when they provide opportunities to demonstrate and perform the concepts in the program. Therefore, a training model that requires

students to practice applying principles in their entirety is considered the superior method and can be further incorporated into the CRE CC and DO training programs.

The data also shows the quality of the training process to be effective, with several highlighted areas having the potential for improvement. The data results suggest that forecasting and exercise scheduling needed improvement to add structure and predictability to an individual's time in training. Additionally, the evidence shows that inconsistencies in training are attributed to variations in the process and variations in the training objectives of a specific training exercise. Generating the correct scale and scope of local TTXs, implemented in a predictable, structured method, suggests as a course of action to address the potential areas of improvement.

The potential for structured training aids was explored and was met with a generally positive response from the interviewees. Using a formal syllabus with measurable performance standards such as those represented in the CFETP was shown to add value to the effectiveness of the training program. Furthermore, the data suggested that using a JOC simulator training environment with adaptable scenario-based training objectives would allow candidates and JOC personnel to exercise requirements that may not be replicable in off-station exercises.

Limitations of Research

While the analysis and data presented in this research answered the research objectives and questions, there were limiting factors encountered during the research worth noting. First, due to the small sample size in the semi-structured interview portion of the methodology, the data chosen for analysis was primarily qualitative and did not

analyze specific quantitative factors for variations in training. Second, the sample size demographics represent tactical-level leaders and recent students of the CRE CC and DO training programs required to fill those specific UTC positions. Widening the interviewee demographics to senior leaders on the Wing or MAJCOM Staff could have gleaned more information on factors that shape the training programs. Third, available quantitative data was limited regarding individual time-in-upgrade. Candidates who had completed their CQJSs are not required to annotate what type of training event, or when on that training event, a training task was performed. Additionally, due to local training management processes, CQJSs are turned in and logged into the system of record once they are fully complete and do not capture how or what type of exercises an individual completed those items.

Recommendations for Future Research

The research analyzes and captures the qualitative themes associated with CRE CC and DO training programs. The research focus does not examine the specific causal factors on a case-by-case basis that contribute to an individual's time-in-upgrade. Through a quantitative analysis model, researching factors that cause extended or varying times-in-upgrade could glean information that future research could analyze for process improvement.

Another recommendation for future research is to compare the training content and processes to other AFSC-awarding training programs, such as maintenance officer training, logistics officer training, or command post-training. While the CRE CC and DO qualification does not award a secondary AFSC or Special Experience Identification

(SEI), it is worth exploring the effects AFSC or SEI awarded training programs would have in the CRW. If not from an AFSC or SCI perspective, it is also worth exploring and creating a framework that identifies the prioritization of training tasks, such as categorizing critical or core tasks in the current training construct.

A final recommendation for further research is to analyze the differences in the training processes between the 621st CRW, 36th CRG in USAFE, 435rd CRG in USAFE, and the 123rd Kentucky Air National Guard CRG. Differentiating factors between the CRGs training programs could reveal opportunities to improve or adapt the training processes to improve the overall effectiveness of the programs.

Summary

This study explores the potential for alternative and thought-provoking avenues for CRE CC and DO training. While there are limiting factors in the research process, the research reveals aspects contributing to the training content and process quality. It finds and suggests several areas where adding structure and formal training aids will positively affect the training program.

Appendix A: CRE DO JQS

JOB QUALIFICATION STANDARD CONTINUATION/COMMAND JQS							
CRITICAL TASK	TASK NUMBER	TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	CERTIFICATION				
			START DATE	COMPLETION DATE	TRAINEE'S INITIALS	TRAINER'S INITIALS	CERTIFIER'S INITIALS (IF REQUIRED)
☐	1	PRE-REQUISITES					
☒	1.1	Obtain GDSSII account					
☒	1.2	Attend USAF Expeditionary Center Contingency Response Mission Planners Course. (AFI 10-202)					
☒	1.3	Complete AMC Stage Management CBT. (AFI 10-202, ADLS)					
☐	1.4	Complete USAF Expeditionary Center Mobile C2 Operations Course. (AFI 10-202)					
☐	2	PRE-MISSION PLANNING					
☐	2.1	Attend planning conference. (AFI 10-202)					
☒	2.2	Identify airlift force(s) (command, wing, etc)					
☒	2.3	Identify aircraft type(s)					
☒	2.4	Explain on/offload, maintenance servicing, crew change, RON, ground times. (AMCI 10-202V6, AMCI 11-208)					
☒	2.5	Explain working and parking MOG. (AFI 10-202, AMCI 11-208, AMCI 10-202V6)					
☒	2.6	Obtain mission POC name, email, and phone listings. (Local procedures)					
TRAINEE NAME				CFETP/JQS NUMBER Cat II CRE/OPS OFF 2016		PAGE NO. 1 of 12	

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JOB QUALIFICATION STANDARD CONTINUATION/COMMAND JQS

CRITICAL TASK	TASK NUMBER	TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	CERTIFICATION				
			START DATE	COMPLETION DATE	TRAINEE'S INITIALS	TRAINER'S INITIALS	CERTIFIER'S INITIALS (IF REQUIRED)
☒	2.7	Explain CRE/CC, CRT Chief, CSE Chief, C2, Aerial Port, Maintenance, Communications and BOS functions as they apply to the CR mission. (AFTTP 3-4.7)					
☒	2.8	Identify/explain Materials Handling Equipment (MHE) and capabilities. (AFTTP 3-4.7)					
☒	2.9	Identify Fleet Servicing requirements. (AMCI 24-101V10, AMCI 11-208)					
☒	2.10	Explain aircraft refueling restrictions/requirements. (T.O. 00-25-172)					
☒	2.11	Identify Comm requirements/availability at operating location (air to ground/LMRs/Land Lines/etc.) (AFTTP 3-4.7, AFI 10-202, Local Guides)					
☒	2.12	Determine COMSEC requirements. (AFMAN 33-283)					
☒	2.13	Determine airfield, A/C, and personal security requirements. (AMCI 11-208, AFI 31-101)					
☒	2.14	Determine weapons/ammunition requirements. (AFI 31-117, TASKORD, OPORD)					
☒	2.15	Identify operation location transportation, billeting, messing and aircrew support requirements. (AMCI 10-210, DTR 4500.9-R Part III)					
☒	2.16	Discuss completion of Standard Form 44, Purchase Order-Invoice-Voucher. (Local procedures)					
☒	2.17	Discuss completion of AF Form 9, Request for Purchase. (AFI 64-102, AFI 65-601 Vol 1, AFI 65-116)					
☒	2.18	Discuss completion of DD Form 448, Military Interdepartmental Purchase Request. (AFI 65-116)					

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JOB QUALIFICATION STANDARD CONTINUATION/COMMAND JQS

CRITICAL TASK	TASK NUMBER	TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	CERTIFICATION				
			START DATE	COMPLETION DATE	TRAINEE'S INITIALS	TRAINER'S INITIALS	CERTIFIER'S INITIALS (IF REQUIRED)
☐	3	PRE DEPLOYMENT					
☒	3.1	Build and manage mission package. (Local Procedures)					
☒	3.2	Obtain FLIP, SIDS, and NOTAMS for deployed location. (NGA FLIPS website https://dbgia.geointel.nga.mil IFR SUP website https://dbgia.geointel.nga.mil/downloads/index.cfm NOTAMS website https://www.notams.jcs.mil/)					
☒	3.3	Obtain past lessons learned/after action reports. (JLLIS, Wing/Group Archives, AFI 10-202)					
☒	3.4	Obtain airfield survey and airfield restriction information and explain application to planning process. (ASRR/GDSSII)					
☒	3.5	Coordinate airlift and deployed location support with AOC: fuel, on/ offload, fleet servicing, aircrew billeting, transportation, communications, etc					
☒	3.6	Prepare and submit DD Form 1249 Airlift Request for SAAM or JCS exercise. (ADANS)					
☒	3.7	Contact host base agencies and Airfield Manager. (AFTTP3-4.7)					
☒	3.8	Determine Crash, Fire, Rescue (CFR) capabilities and requirements, (AMCI 11-208, AFI 32-2001, AFPAM 32-2004, AFPAM 90-803)					
☒	3.9	Determine weather support requirements. (AFI 10-202, AFMAN 15-111)					
☒	3.10	Obtain frequency from Frequency Manager at AOC. (Local procedures, AFI 32-580)					
☒	3.11	Explain Mission Support and Readiness duties.					

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JOB QUALIFICATION STANDARD CONTINUATION/COMMAND JQS

CRITICAL TASK	TASK NUMBER	TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	CERTIFICATION				
			START DATE	COMPLETION DATE	TRAINEE'S INITIALS	TRAINER'S INITIALS	CERTIFIER'S INITIALS (IF REQUIRED)
☒	3.12	Coordinate with airflow planners					
☒	3.13	Explain methods to obtain IFM package from AOC. (AMCI11-208, Command Guidance)					
☒	3.14	Determine team requirements for US/Foreign customs, immigration, agriculture and country clearances. (FCG website https://www.fcg.pentagon.mil/fcg.cfm)					
☒	3.15	Coordinate team and equipment movement plans. (Local procedures)					
☒	3.16	Prepare publications/Ops kit for mission. (Local procedures)					
☒	3.17	Explain Unit Deployment Manager (UDM) duties. (AFI 10-403, Installation Deployment Plan)					
☐	4	DEPLOYMENT					
☒	4.1	Identify personnel mobility processing procedures/requirements. (AFI-10-401, Installation Deployment Plan, AEF online)					
☒	4.2	Explain deployment load/packing lists. (LOGMOD, AFI 10-401)					
☒	4.3	Identify and explain Transportation Control Numbers (TCNs). (LOGMOD)					
☒	4.5	Identify and explain necessary shipping documentation (TCMD, Shipper's Dec's, etc) (AFMAN 24-204)					
☒	4.6	Explain and build deployment file using current load planning software. (ICODES)					

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JOB QUALIFICATION STANDARD CONTINUATION/COMMAND JQS

CRITICAL TASK	TASK NUMBER	TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	CERTIFICATION				
			START DATE	COMPLETION DATE	TRAINEE'S INITIALS	TRAINER'S INITIALS	CERTIFIER'S INITIALS (IF REQUIRED)
☒	4.7	Explain/observe Joint Inspection (JI) process (DTR 4500.9-R Part III, Local procedures)					
☒	4.8	Conduct mission briefings. (Local Procedures, AFI 10-202)					
☐	5	EMPLOYMENT					
☒	5.1	Prepare and submit on-station, deployed personnel and equipment(DP&E) and situation (SITREP) reports. (AFI 10-202, AFI 10-206)					
☒	5.2	Publish deployed agency communications listing. (Local procedures)					
☒	5.3	Initiate and maintain the AF Form 4377 Events Log. (AFI 10-202)					
☒	5.4	Retrieve station workload and mission detail from GDSS.					
☒	5.5	Obtain Air Tasking Order (ATO), Special Instructions (SPINS). (SIPRNET)					
☒	5.5	Explain mission numbers. (AMCI 10-202V6, AMCI 11-208, MAF ID ENCODE/DECODE Procedures)					
☒	5.6	Prepare and update AMC Form 356 Movement Flow Chart					
☒	5.7	Publish airflow schedule. (Local procedures)					
☒	5.8	Report arrival/departure times to C2 agencies					

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JOB QUALIFICATION STANDARD CONTINUATION/COMMAND JQS

CRITICAL TASK	TASK NUMBER	TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	CERTIFICATION				
			START DATE	COMPLETION DATE	TRAINEE'S INITIALS	TRAINER'S INITIALS	CERTIFIER'S INITIALS (IF REQUIRED)
☒	5.9	Explain airlift management activities with appropriate agencies. (Airfield Manager, Base Ops, Host Nation, US Embassy) (DTR 4500.9R Part III, AFTTP 3-4.7)					
☒	5.10	Explain airlift management activities with A/DACG, EMBARK, DCC, APOD, APOE, Civilian contractors. (DTR 4500.9R Part III)					
☒	5.11	Accomplish and distribute daily air flow/work schedule with appropriate team functions.					
☒	5.12	Obtain flight plans, weather, and NOTAMS for deployed location. (11-208)					
☒	5.13	Explain Mission Reliability Reporting System (MRRS). (AMCI 10-202V6)					
☒	5.14	Explain standard aircraft ground delay code procedures. (AMCI 10-202V6)					
☒	5.15	Explain aircraft maintenance brevity codes (A-1, A-2, etc) (AMCI 10-202V6)					
☒	5.16	Determine aircraft security requirements. (AFI 31-101)					
☒	5.17	Operate assigned communication equipment/radios. (Local procedures)					
☒	5.18	Operate portable generators. (Local procedures)					
☒	5.19	Coordinate and monitor deployed air cargo operations. (DTR 4500.9R Part III)					
☒	5.20	Coordinate arrival/departure ground support requirements. (Local procedures)					

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CRITICAL TASK	TASK NUMBER	TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	CERTIFICATION				
			START DATE	COMPLETION DATE	TRAINEE'S INITIALS	TRAINER'S INITIALS	CERTIFIER'S INITIALS (IF REQUIRED)
☒	5.21	Coordinate arrival/departure aircrew support requirements. (AMCI 11-208)					
☒	5.22	Validate AMC Form 174, Airfield Survey.					
☒	6	REDEPLOYMENT					
☒	6.1	Develop roll-up plan. (AFTTP 3-4.7)					
☒	6.2	Prepare and submit re-deployment plan to AOC. (AFI 10-202)					
☒	6.3	Coordinate departure activities with host base personnel. (AFTTP 3-4.7)					
☒	6.4	Coordinate clean up and departure with Airfield Manager. (AFTTP 3-4.7)					
☒	6.5	Identify personnel and equipment for redeployment. (AFTTP 3-4.7)					
☒	6.6	Coordinate manifesting and marshalling of equipment and personnel. (DTR 4500.9R Part III)					
☒	6.7	Prepare and submit off-station report. (AFI 10-202)					
☐	7	POST DEPLOYMENT					
☒	7.1	Reconstitute UTCs to deployable status (LOGDET, Local procedures, AFI 10-401)					

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JOB QUALIFICATION STANDARD CONTINUATION/COMMAND JQS

CRITICAL TASK	TASK NUMBER	TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	CERTIFICATION				
			START DATE	COMPLETION DATE	TRAINEE'S INITIALS	TRAINER'S INITIALS	CERTIFIER'S INITIALS (IF REQUIRED)
☒	7.2	Complete and submit after action report					
☒	8	MISSION MANAGEMENT					
☒	8.1	Describe deployed chain of command (AFI 10-202)					
☒	8.2	Describe arrival actions and duties. (AFTTP 3-4.7, AMCI 10-202V6)					
☒	9	INFORMATION SECURITY					
☒	9.1	Explain message classification, storage, and handling. (AFI 16-1404)					
☒	9.2	Explain classification marking procedures. (AFI 16-1404)					
☒	9.3	Explain classification authority. (AFI 16-1404)					
☒	9.4	Explain OPSEC procedures. (AFI 10-701)					
☒	10	COMMUNICATION SECURITY					
☒	10.1	Demonstrate proper COMSEC handling and storage procedures. (AFMAN 33-283)					
☒	10.2	Demonstrate operation of encrypted communication equipment to include STE. (L-3 COMMUNICATIONS STE USER'S MANUAL)					

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JOB QUALIFICATION STANDARD CONTINUATION/COMMAND JQS

CRITICAL TASK	TASK NUMBER	TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	CERTIFICATION				
			START DATE	COMPLETION DATE	TRAINEE'S INITIALS	TRAINER'S INITIALS	CERTIFIER'S INITIALS (IF REQUIRED)
☒	10.3	Demonstrate the use of authenticators, chattermarks to include encode/ decode documents (AFMAN 33-283, SPINS)					
☒	10.4	Explain destruction procedures (AFMAN 33-283)					
☒	11	SAFETY					
☒	11.1	Explain and demonstrate airfield safety procedures. (DTR 4500.9R Part III)					
☒	11.2	Explain and demonstrate flightline safety program. (DTR 4500.9R Part III)					
☒	11.3	Develop foreign object damage (FOD) prevention program. (AFI 91-203)					
☒	11.4	Explain hazardous material handling requirements. (AFMAN 24-204)					
☒	11.5	Explain movement and storage of explosive cargo. (AFMAN 24-204)					
☒	11.6	Explain NBC materials handling and storage. (Quick Reaction Checklist)					
☒	11.7	Explain AMC Form 97, AMC In-flight Emergency and Unusual Occurrence Worksheet. (AFI 91-204, AMC Sup 1)					
☒	11.8	Explain AF Form 457, Ground Hazard Report. (AFI 91-202)					
☒	11.9	Explain Bird Air Strike Hazard (BASH) procedures. (AFPAM 91-212)					

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JOB QUALIFICATION STANDARD CONTINUATION/COMMAND JQS

CRITICAL TASK	TASK NUMBER	TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	CERTIFICATION				
			START DATE	COMPLETION DATE	TRAINEE'S INITIALS	TRAINER'S INITIALS	CERTIFIER'S INITIALS (IF REQUIRED)
☒	12	COMMUNICATIONS					
☒	12.1	Set up and operate secure SATCOM radios and antenna. (Local procedures)					
☒	12.2	Set up and operate BGAN/GRIPP and antenna. (Local procedures)					
☒	12.3	Set up and operate Air to Ground primary UHF/VHF radios. (PRC-5, PRC-117, AFLMM-64 AN/PSC-5D Operators and users maintenance manual (TM SOFIIS-00G10-00297-00))					
☒	12.4	Set up and operate encryption devices.					
☒	12.5	Configure and operate LMRs (secure/unsecure) (AN/PRC-152 Operations Manual 10515-0283-4200, Quick Start Reference Guide 10515-0283-4100)					
☒	12.6	Demonstrate use of GIANT VIOCE/PA system. (Local procedures)					
☐	13	EMERGENCY ACTIONS					
☒	13.1	Demonstrate the use of Quick Reaction Checklists (QRCs) (QRC binder)					
☒	13.2	Explain and demonstrate OPREP reporting. (AFI 10-206)					
☒	13.3	Explain FPCON levels and countermeasures. (AFTTP 3-4 Airmans Manual)					
☒	13.4	Explain MOPP levels and location actions. (AFTTP 3-4 Airmans manual)					

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CRITICAL TASK	TASK NUMBER	TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	CERTIFICATION				
			START DATE	COMPLETION DATE	TRAINEE'S INITIALS	TRAINER'S INITIALS	CERTIFIER'S INITIALS (IF REQUIRED)
☒	13.5	Explain USAF standard alarm signals and location actions. (AFTTP 3-4 Airmans Manual)					
☒	13.6	Explain anti-hijacking procedures and location actions (AFI 13-207)					
☐	14	AIRCRAFT CHARACTERISTICS AND LIMITATIONS					
☒	14.1	Identify commonly encountered aircraft during CR operations and their capabilities.					
☐	15	AIRCRAFT GROUND PROCESSING					
☒	15.1	Successfully complete aircraft marshalling exam. (AFI 11-218, ADLS)					
☒	15.2	Perform aircraft marshalling with actual aircraft (AFI 11-218)					
☒	15.3	Explain and perform Follow Me duties. (AFI 11-218)					
☒	15.4	Explain and perform wing-walker procedures. (AFI 11-218)					
☒	15.5	Explain aircraft wing-tip clearances and turn radius requirements. (AFI 11-218)					
☒	15.6	Explain and coordinate engine running on/off load procedures> (DTR 4500.9R Part III)					
☒	15.7	Explain aircraft concurrent servicing operations. (T.O. 00-25-172)					

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CRITICAL TASK	TASK NUMBER	TASKS, KNOWLEDGE AND TECHNICAL REFERENCES	CERTIFICATION				
			START DATE	COMPLETION DATE	TRAINEE'S INITIALS	TRAINER'S INITIALS	CERTIFIER'S INITIALS (IF REQUIRED)
☒	15.8	Explain lighting restrictions during airfield operations					
☒	15.9	Explain wind restrictions during airfield operations					
☐	16	AIRCEW MANAGEMENT					
☒	16.1	Explain basic and augmented crew duty limitations for airlift aircraft. (AMCI 10-202V6, AMCI 10-210)					
☒	16.2	Explain crew alert and release procedures including Alpha, Bravo and Charlie alerts. (AMCI 10-210, AMCI 11-206, AMCI 11-208)					
☒	16.3	Publish local aircrew brochure. (AMCI 10-210, AFI 10-202, Local procedures)					
☒	16.4	Accomplish aircrew arrival/departure briefing. (AMCI 11-208)					
☒	16.5	Explain procedures to obtain In-Flight Management (IFM) package (AMCI 10-210)					
☒	16.6	Explain/demonstrate aircrew stage management procedures. (AMCI 10-210)					
☐	17	AIR RESERVE and AIR GUARD CR FORCES					
☒	17.1	Explain capabilities of AFRC and ANG CR Forces					
☒	17.2	Explain process gain AFRC ANG CR Force augmentation					

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Appendix B: Pre-coded NVIVO illustrative verb results

	CRE DO	CRT Chief	AM JQS
AFI	2.13	2.55	2.16
explain	2.53	1.39	0
procedure	1.64	1.74	0
date	1.19	1.39	1.15
completion	0.94	1.74	1.3
operate	0.89	0.23	0.87
deployment	0.84	0.84	0.29
standard	0.74	0.74	0.58
aircraft	0.69	0.35	0
tasks	0.64	0.93	0.72
certification	0.59	0.69	1.44
knowledge	0.59	0.69	0.72
planning	0.5	0.93	0.29
coordinate	0.5	0.46	0
demonstrate	0.45	0.58	0.14
airfield	0.5	0.69	0.72
discuss	0.15	0.35	0.14
assessment	0	0	1.3
training	0	0	1.44
	FCCR	CR MPC	CR C3
explain	0	0.46	0.97
operate	1.35	0.098	0.24
deployment	0	0.059	0
tasks	0.19	0.059	0
planning	0.29	0	0
assessment	0.14	0	0
training	0	0	0
activity	2.07	1.89	1.14
comprehend	0.92	0.26	0.17
objective	0	1.24	0
identify	0.14	0.52	0
describe	0	0.46	0
communicate	0	0	0.172
participate	0.29	0.59	0
familiararity	0.29	0	0
define	0	0.13	0

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14. ABSTRACT
This research examines the training programs for Contingency Response Element Commanders and Operations Officers (CRE CC and DO) in the 621st Contingency Response Wing (CRW). Through a qualitative process, this study conducts semi-structured interviews of recently qualified CRE CCs and DOs and a content analysis of the training documents and syllabi to identify themes and factors that affect the quality of training content and processes. Additionally, it explores the potential benefits of using structured training aids such as formal syllabi and simulator tools to conduct upgrade and continuation training. The research identifies factors in the training program that explain the causes of variation in a candidate's training regimen and variation in the training processes. Using the levels of cognitive domain framework, the research finds anecdotal evidence from CRE CCs and DOs and the document analysis of the benefits of utilizing a structured process to enact the training program. Ultimately, the research shows a clear need to implement an overarching training strategy that gives candidates the space to exercise in scenario-based training environments to gain experience in a range of contingency response operation missions.

15. SUBJECT TERMS
Contingency Response, CRE, Contingency Response Wing, Air Base Opening

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