F-16 Collision – ARFF Response

Chief John Thompson
Installation Fire Chief
Nellis-Creech
OVERVIEW

- Situational Awareness
- Nellis-Creech Fire Dept
- Primary Crash Phone Notification (E911 call)
- Initial Response
- Firefighting & Pilot Extrication
- Incident Command
- Crash Video
- Firefighting Ops – Pictures
- Sequence of Events
- Response Successes & Challenges
- Pilot’s “Thank You” Message
Situational Awareness

- 15 Aug 2015 (A Saturday); 11:02 AM PDST
  - 108F; Humidity 10%
  - Sunny skies; visibility unlimited
  - Winds out of the west at 11 MPH
- Two parallel runways; 10,120ft long/200ft wide
  - Orientation: 03/21
  - 77K landings/take-offs avg per year
Nellis-Creech Fire Department Info

- 124 firefighters
  - 72 active duty Air Force (military)
  - 52 civil service civilians
- Six fire stations
  - Station 1 – HQ; combination ARFF/structural; 11~14 FFs; NEL main base/flight line
  - Station 2 – satellite; structural; 2-4 FFs; NEL
  - Station 3 – combination; 4-7 FFs; NEL flight line
  - Station 4 – structural; 4-5 FFs; NEL mil family housing
  - Station 5 – combination; 4-7 FFs; CRE south base/flight line
  - Station 6 – combination; 4-6 FFs; CRE north base/flight line
- Fire Trucks
  - Four P-23 ARFF vehicles; 3.3K-gal
  - Four P-19/P-19R ARFF vehicles; 1.5K-gal
  - Three P-34 rapid intervention vehicles; 400/500-gal
  - Six pumps
- Call volume – avg 1,400 calls per annum
  - ~ 300 aircraft in-flight and ground emergencies
  - ~ 300 structural
  - ~ 300 EMS (AEMT/EMT/First Responder; non-transport)
F-16 ACCIDENT DETAILS

- Sat 15 Aug 2015, 1102 hours Las Vegas time

- F-16 T/# 85-01549 & F-16 T/# 85-01546 land Nellis AFB, R/W 21R
  - Completed local area orientation flight in prep for Red Flag 15-4

- MA1 lands first; 163 knots, 750’ down runway

- MA2 lands 15 secs later; 181 knots & 1,192’ down runway
  - 3,052 ft behind MP1

- 11:02:29 MA2 going 60 knots impacts MA1 going 30 knots
  - Aircraft conjoined; veer sharply to left
  - Come to a stop in between runways
  - 2,500 ft of runway still remain
F-16 ACCIDENT DETAILS (CON’T)

- Collision force pinned MP2 under right wing of MA1
  - Conjoined aircraft exited r/w ~350’ after impact
  - MP2’s panel forced against ejection seat lever
  - Executed MP2’s ejection sequence; pinned him against seat
  - Canopy disengaged from aircraft
  - MP2’s seat traveled up seat rails, but did NOT leave aircraft
  - Right wing of jammed MP2 in cockpit while ejection seat fired
  - Left fuel tank exploded immediately after stopping
  - At this point, MA2 burst into flames; would continue to burn
  - MP2 sustained life threatening injuries (blunt force, burns, crushed)

- MP1 not injured; self-egressed
CRASH PHONE CALL (E911)

- Dispatch Center weekend manning: one firefighter
- 11:02:29 – collision
  - Unbeknownst to most everyone on base, except for ATC Controllers
- At Fire Station 1 …
  - 11:02:48 – Primary Crash Phone activates; ATC Controller reports
    - F-16 collision, R/W 21R
    - One aircraft on fire
    - One pilot trapped
  - 1102:48 Sta. 1 crews hear Crash Phone over Fire Station PA & begin to respond
- At Fire Station 2 …
  - 11:03:32 – Crews hear call over radio/PA system & begin to respond
- Dispatch Center Dispatcher runs Acft Crash Checklist
  - Recalls off-duty firefighters
  - Notifies Fire Chief, Squadron Commander, Command Post
INITIAL RESPONSE

- Collision occurred 11:02:29
  - .47 miles from Nellis-Creech Fire Sta.1
- First truck out of station, Crash-7 (P-23, 3.3K gal)
- Crash-7 Crew Chief, SSgt Fox
  - Selected direct travel rout vs. staying on hardpan
  - Decreased travel distance 708ft
    - Slashed 17 sec off response time
    - Resulted in 17 sec less of being “on fire” for pilot
- 11:03:37 – 68 secs after call initiated, arrived on-scene
- 11:04:19 – main body of fire impinging pilot knocked down
- 11:09:00 – Spot fires extinguished
RESPONSE TO SCENE
FIREFIGHTING & PILOT EGRESS

11:09 – Crews able to start pilot egress
- Assess situation; called for rescue tools
- AF FFs train hundreds of hours annually in pilot egress ops
- More like MVC vs. typical acft crash scene, so rescuers must disentangle first
- Mixed Extrication & Pilot Egress Operation

Hurst Tool & Air Bags used, but no success
- Forced to rig tow system to pull MA1 off of MA2
- Extrication lasted 50 minutes
- 12:00:10 – Pilot egressed; turned over to Medics
FIREFIGHTING OPERATIONS
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Integration - Service - Excellence
FIREFIGHTING OPERATIONS
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SEQUENCE OF EVENTS

- 11:02:29  C-7 Driver witnesses crash; calls for Crew Chief
- 11:02:48  Via Primary Crash Phone, Ground Emergency for two F-16's
- 11:03:32  Dispatcher starts dispatching actions
- 11:03:32  CH-3, E27, C7, C11 respond from Sta 1
- 11:03:37  C-7 on-scene fighting fire
- 11:04:32  Fire knocked down by C-7
- 11:04:35  C-11 on-scene fighting fire, Chief-3 assumed IC
- 11:06:41  Ch-3 reports pilot still in aircraft, fighting spot fires
- 11:08:16  Sta 2 crews on-scene extinguishing spot fires under F-16s
- 11:10:08  Crews bring extrication tools to F-16
- 11:13:21  IC directs FF to put air pack on pilot over concerns of pilot exposure to smoke, fumes from spilled & unburned acft fuel, composite fibers & Hydrazine)
- 11:13:26  MA1’s EPU pinned
- 11:34:55  Abandoning Hurst tool, not helping switching to air bags
- 11:35:16  All fires extinguished
- 11:45:02  Crews begin tow operation
- 11:58:08  MA1 dislodged from MA2 (‘Extraction)"
- 12:00:10  Pilot removed from MA2 (‘Pilot Egress’)
RESPONSE SUCCESSES

- 1st two fire trucks alerted by Crash Phone/PA
- Crews drove most direct route to accident site
- Arrived on-scene in amazing 68 seconds!
- Knocked down fire impinging pilot in 42 secs
- IC directed SCBA mask on pilot
- Per ER Doc, “Lightning fast response saved pilot’s life!”
- IC strategically split FD resources (manpower & equip) to:
  - Extinguish F-16 fire & nearby brush fire hazards
  - Extricate/egress pilot
  - Respond to dire EMS call
  - After FD’s arrival & pt. assessment would DOA be known
- No injuries to FFs or non-FD responders
- Outcome spread throughout AF pilot & firefighter communities!
  - Nellis is a safe place to fly!!!
RESPONSE CHALLENGES

- Work load vs heat management
- IC didn’t use checklists
- Air bottle management, crews avg 20 min on 45 min bottle
- Rehab >> tents, buses, food, water
- Crews kept on-scene too long
- ECP not clearly marked
- Initial crews sprayed water-only vs. water/foam mix
- Crews removed face mask when EPU safed
- Crews worked in IDLH w/o masks for 30+ mins
- Fire Chief could/should have recalled senior staff
THANK YOU MESSAGE FROM THE PILOT

- Play video