COMMUNICATION PRIORITIES:
1. Safety is a paramount consideration
2. The health and safety of our Airmen is of utmost concern
3. The F-22 is incredibly capable and vital to our nation’s defense
4. The root cause of the unexplained physiological incidents is still being pursued

LIFE SUPPORT AND HEALTH OF AIRMEN:

- Safety is a paramount consideration
  - “We were unable to determine a root cause, but we were able to put in place the proper safety measures and risk mitigation techniques that would allow the F-22 fleet to return to fly.” – Gen Martin (ret), 29 Mar 2012
  - “We live in a community where risk is part of our lives. If we think the risk has gone to a level where we just can’t accept it, we either reduce that risk or eliminate it. But right now, we believe that risk – although it’s not as low as we would like it – is low enough to safely operate the airplane at the current tempo.” – Gen Hostage, 30 Apr 2012
  - “We have instructed and taught to the members in the field, whenever you get any indication that something may not be right, call 911. Terminate the flight. All eyes are on you and the safe recovery of that aircraft. We meet those pilots when they get back on the ground with a medical team who goes into an immediate response to care for the pilot, check his oxygen level, give him oxygen should he need it. We take additional tests and then send the tests off to the lab.” – Maj Gen Lyon, 29 Mar 2012
  - Since the return-to-fly, there have been 11 unexplained hypoxia incidents while we’ve flown more than 12,500 sorties.

- The health and safety of our Airmen is of utmost concern
  - After looking at all the information brought forward from the Scientific Advisory Board study, we took off-the-shelf technology to quickly implement recommendations that give us the confidence this aircraft can be operated safely.
  - Until recently, F-22 pilots were flying with filters that contained a level of inert charcoal to determine if there were breathing contaminants. More than 500 of these filters were evaluated post flight – down to the parts per billion level – and no significant amount of contaminants were found, subsequently we discontinued the use of the charcoal filters.
    - These filters are safe. They are certified for use in all aircraft in the AF inventory.
  - Pilots breathe in high oxygen concentration while experiencing high G forces. This high oxygen intake causes what aerospace medicine experts refer to as “acceleration atelectasis” (microcollapse of airsacs/alveoli in the lung). Coughing is the body’s natural reaction to clear the lungs and reinflate the airsacs. There are no known long-term health concerns associated with acceleration atelectasis.
  - There is no clinical evidence that the F-22 is making pilots sick.
**F-22 CAPABILITIES:**

- The F-22 is incredibly capable and vital to our nation’s defense
  - Our nation needs the capability to enter contested airspace, to overcome air defenses that are a threat to our aircraft and any force that attempts to deny our ground forces the ability to maneuver without prejudice; the F-22 provides that capability.
  - The F-22 imparts a sense of vulnerability to potential adversaries and would-be aggressors, thereby making vital contributions to the nation’s deterrent posture and the broader whole of government effort.
  - Fifth generation fighters, like the F-22, provide air superiority and global precision attack against today’s – and tomorrow’s – air and ground-based threats.
  - The United States Air Force has deployed F-22s to Southwest Asia. Such deployments strengthen military-to-military relationships, promote regional security, improve combined tactical air operations competence, and enhance interoperability of forces, equipment and procedures.
  - The F-22’s stealth and range make it ideal for operating over territory where enemies have advanced air defenses. Our nation has interests in many regions where such a capability would be critical.

**ROOT CAUSE:**

- The root cause of the unexplained physiological incidents is still being pursued
  - “I believe we are making significant progress toward an answer. I don’t want to characterize how far or when because I don’t own the progress of science. But I am confident we’re going to get a solution.” – Gen Hostage, 30 Apr 2012
  - While no root cause has been discovered, risk mitigation elements have been put into place:
    - Pulse oximeter worn by pilots in flight that allows them to monitor their blood oxygen level
    - Modification to the emergency oxygen handle to make it easier to find/pull in emergencies (already fielded in all F-22s)
    - Instrumentation of two operational aircraft (one from Langley and one from Elmendorf) to augment the existing F-22 test aircraft fleet at Edwards AFB which collect detailed data for root cause analyses
    - An independent cockpit O2 sensor and warning to monitor and record oxygen quantity being supplied by the OBOGS to the pilots mask (fielding in progress, ECD Aug 12). All deployed F-22s have been upgraded.
  - Since the return-to-fly, there have been 11 unexplained hypoxia incidents and over 12,500 sorties flown.
  - “The F-22 has a 99.9 percent effective flying rate when it comes to this issue. But that's not good enough. We will not rest, we will not stop, we will not end this journey that we're on until we carry that 99 to the farthest right decimal point we can.” – Maj Gen Lyon, 29 Mar 2012
TIMELINE:

- Dec 2005: Initial operating capability achieved
- Apr 2008: First reported F-22 hypoxia-related incident
  - Total of 12 reported between April 2008 and January 2011
- 16 Nov 2010: Capt Jeff Haney fatally crashes F-22 while on sortie from Elmendorf AFB, Alaska
- 7 Jan 2011: Commander of Air Combat Command restricts flight ceiling to 25,000 feet
  - Directs Class E Safety Investigation Board
- 3 May 2011: Commander of Air Combat Command directs F-22 stand down
- 16 May 2011: Secretary of the Air Force directs broad area review of the onboard oxygen generation systems
  - Built on and expanded the efforts of the hypoxia deep dive integrated product team
- 7 Jun 2011: Secretary of Air Force redirects study to convene under the auspices of Scientific Advisory Board
- Sep 2011: Secretary and Chief of Staff of Air Force approve request to return to flight operations
- Dec 2011: Improved Emergency Oxygen System handles installed
- Jan 2012: Scientific Advisory Board concludes oxygen study; no root cause determined for hypoxic events
- Jan 2012: Air Combat Command Task Force stands up

QUESTIONS AND ANSWERS:

1. Why does the U.S. Air Force need the F-22 in future conflicts?

   The F-22’s stealth capabilities and range make it ideal for operating over territory where enemies have advanced air defenses. Our nation has interests in many regions where such a capability would be critical.

   There are countries developing aircraft that will require a robust 5th generation capability. While relations with these countries are strong, they have shown a willingness to sell their technology.

   One lesson in recent contingency operations is the enemy continues to evolve. Therefore it is essential for the Air Force to continue investing in advanced capabilities, like electronic protection and attack, to retain the advantage the jet enjoys today.

   “If your adversary is so concerned about what your capabilities are they decide not to engage with you, that to me is the ultimate use of your military capability. If you look at, when we moved these airplanes operationally here in the past couple of weeks, the press around the world noticed. Our adversaries are all abuzz and all aflame that hey, you guys, what are you doing? People pay attention to where this airplane goes and what it does because regardless of the furor in our press and public about the suitability or the safety of the airplane, they’re very worried about its capability. That to me means we’re on the right path with this capability and we need to make sure that it’s a sustained part of our inventory.” – Gen Hostage, 29 Mar 2012

2. Why hasn’t the F-22 been used in combat?

   Every day, we train and exercise the Airmen assigned to man the nation’s arsenal of ICBMs. We do this in the name of deterrence – we want potential enemies to decide NOT to engage the United States in combat. The
capability the F-22 provides our nation is a deterrent to aggression by potential adversaries, and allows our country to more effectively wield the instrument of diplomacy.

Currently, F-22s are deployed to the CENTCOM AOR to further our efforts in assuring allies and building partnerships.

3. Is the F-22 making pilots sick?

There is no clinical evidence the aircraft is making pilots sick. *(See guidance, above, on addressing the issues of the use of the inert charcoal filter and “acceleration atelectasis.”)*

4. What can you tell us about the black sputum and how it relates to the charcoal filters the pilots were using?

In response to pilot concerns about charcoal dust from C2A1 filters, the ACC Task Force examined filter, hose, and mask assemblies post-flight and observed small amounts of dust in the oxygen hose. They followed that up with 30 throat swab samples of pilots immediately before and after flight looking for charcoal and had them analyzed by an electron microscope. No charcoal was seen in any of the samples. ACC also examined the amount of charcoal dust liberated by the filter during normal use and determined it was well below the industrial hygiene levels set by government agencies for nuisance dust. Charcoal dust is considered inert and not reactive with the human body, and charcoal filters similar to the C2A1 are in use each day by hundreds of thousands of industrial workers around the world.

5. Why did the Air Force elect to return to fly before finding the root cause?

The Air Force returned the F-22 to the air to meet combatant commander requirements for generating air dominance combat power. We did so while incorporating safety measures and risk mitigation techniques that would allow the F-22 fleet to return to fly with the lowest risk possible. Considerations across the community, from Operations, Maintenance, Surgeon General and safety were integrated with SAB/SIB considerations, and mitigation recommendations from the SAB/SIB were implemented prior to returning to fly (Incident Response protocols; Guidance to F-22 units -- FCIF; CRU-122 modification to pilot filter; TCTO 1300 Aircraft LSS inspections; and TCTO 1095 Seat modification).

"The more we look into it, the more the problem seems to relate to the interaction between pilots and the aircraft's life support systems in an operational environment. So you can't learn about the problem if you don't learn about the airplane. While we can't eliminate risk, we have been able to reduce it to the point where it's acceptable given both the need for pilots to maintain proficiency in the jet and the operational demand in our defense partnership, deterrence, and homeland defense activities." – Gen Hostage, 29 Mar 2012

6. Why doesn't the Air Force ground the fleet again?

We don't need to. We have mitigated risk and ensured the safety of the pilots. It is important to note the pilots have the final say – they are empowered, as they always have been, to abort a sortie if they feel unsafe.
7. What can you tell us about actions that have been taken against the F-22 pilots who have refused to fly?

We cannot discuss the details of the F-22 pilots who appeared on the ‘60 Minutes’ broadcast due to privacy concerns.

8. What was the cause of the F-22 crash at Elmendorf?

The cause may be summarized as “channelized attention, breakdown of visual scan, and unrecognized spatial disorientation.”

By clear and convincing evidence, the Accident Investigation Board found the cause of the mishap was the pilot’s failure to recognize and initiate a timely dive recovery due to channelized attention, breakdown of visual scan, and unrecognized spatial disorientation.

The AIB found that other factors that substantially contributed included: organizational training issues, inadvertent operations, personnel equipment interference, and controls/switches (emergency O2 activation ring design).

9. What can you tell us about the Haney family lawsuit against manufacturers of the F-22?

Since the Air Force is not a party to the suit, we have no comment on the litigation.

10. What can you tell us about the pilot that hit trees while trying to land an F-22 in Alaska?

As we have learned more about that incident, we can say with confidence that that particular incident was not hypoxia related.

11. I understand the Secretary of the Air Force directed that actions against the two pilots who appeared on ‘60 Minutes’ be stopped. Why did he do that and what is his jurisdiction?

Air Force leadership has asked VA National Guard commanders to hold on taking further actions in order to allow Headquarters Air Force an opportunity to consider what actions should be taken in response to these cases, to include determining what commander or commanders ought to exercise disposition authority in these cases and any others that may occur in the future.

12. What can you tell us about actions that have been taken against F-22 pilots who have refused to fly?

Because of our obligations under the Privacy Act, we cannot discuss specific details of the individual F-22 pilots who appeared on the ‘60 Minutes’ broadcast without their consent.

13. Will the pilots who appeared on ‘60 Minutes’ be punished, or even forced out of the Air Force?

While privacy concerns prevent us from discussing details related to the F-22 pilots who chose to appear on ‘60 Minutes,’ we would like to emphasize the Air Force does not tolerate any reprisal actions against whistleblowers.