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• I want all the people of Northrop Grumman to know how proud I am of the work you have done to develop the JSTARS surveillance system.

• When I visited our troops in Bosnia last January, I visited a ground station linked to JSTARS aircraft flying high overhead. I saw for myself the remarkable capabilities of this technology. It can detect, identify and track fixed or moving targets as small as a jeep or patrol boat from up to 150 miles away -- by day or night, good weather or bad and within a search area of more than 35,000 square miles. It gives our military the clearest possible picture of the situation on the ground when they're called upon to keep the peace or win a war.

• I came away from Bosnia convinced that our military needs this technology to dominate not only the battlefields of the future, but also operations short of war. Last month, the Department of Defense decided to move forward with the JSTARS program and acquire 19 aircraft for the Air Force.

• NATO also would benefit from a surveillance system with JSTAR’s capabilities -- and we are working closely with our allies to get them to agree. [Just this morning, NATO's military committee agreed on the high priority need for an airborne surveillance system. I believe that system should be JSTARS.]
The Joint Surveillance Target Attack Radar System (JSTARS) is a modified Boeing 707 aircraft that locates, classifies and tracks ground and waterborne targets, helicopters and other low-flying craft, and rotating antennas. JSTARS can look deep across borders while flying over friendly airspace in all weather conditions. With a radar range in excess of 120 miles, JSTARS can support a variety of military contingencies, such as actual or impending military aggression, international treaty verification or border violations. JSTARS provides an unprecedented ability to "see" the battlefield and can provide military commanders and political leaders a clear picture of the ground situation in the early stages of a developing crisis.

JSTARS was still undergoing development and testing when the Air Force deployed the first two prototypes to Saudi Arabia during DESERT STORM, where it performed with distinction in tracking mobile Iraqi forces. JSTARS was also deployed in support of IFOR operations in Bosnia from December 1995 to March 1996. The aircraft at Lake Charles (aircraft T-2) is the only JSTARS to serve in both operations.

On September 25, 1996, the Department of Defense notified Congress of its intent to procure 19 JSTARS aircraft for the U.S. Air Force. These aircraft will be based at Robins Air Force Base, Georgia, where the first E-8C JSTARS aircraft was delivered to the 93rd Air Control Wing last June.

On October 24, 1996, the NATO Military Committee agreed that acquisition of a NATO-operated airborne ground surveillance system was a "high priority." While today's action by the Military Committee does not guarantee NATO's purchase of JSTARS, it provides an important military rationale for consideration by NATO Armaments Directors at their upcoming meeting on November 6th and 7th. Any JSTARS procured by NATO would be in addition to the 19 the U.S. intends to buy.
Blinken, Antony J.

From:    Bell, Robert G.
To:      Johnson, David T.; @DEFENSE - Defense Policy; @EUROPE - European Affairs
Cc:      /R, Record at A1; @PLANNING - Strat Plan & Comm; @PRESS - Public Affairs;
         @EXECSEC - Executive Secretary
Subject: RE: J-Stars Plant Visit by President on Thursday [UNCLASSIFIED]
Date:    Wednesday, October 23, 1996 12:14PM

Comrades! Let me try to set the record straight on the “timing” issue. The timing of the POTUS visit is not “24 hours on the awkward side.” In fact, the timing could not be better. At one stage (about 7-10 days ago), the NATO Military Committee meeting at which the urgency of procuring NATO JSTARS was to be decided was scheduled for October 24th. However, that was slipped last week by a week. In addition, there is an important meeting of NATO procurement chiefs in November. So the POTUS visit on Thursday will allow us to make the point at both meetings that we are committed to this program.

David: Jim Seaton will prepare a one-pager.

From: Johnson, David T.
To:  @DEFENSE - Defense Policy; @EUROPE - European Affairs
CC:   /R, Record at A1; @PLANNING - Strat Plan & Comm; @PRESS - Public Affairs
Subject: J-Stars Plant Visit by President on Thursday [UNCLASSIFIED]
Date: Wednesday, October 23, 1996 11:19 AM

Sirs:
As all of you probably know much better than I, the President will visit the JStars plant in LA this Thursday, a time that is, as I understand it, about 24 hours on the awkward side.

The press will have a bit of a problem understanding all of this, so it would be useful to have a fact sheet that explains the weapons system, the us program to acquire and integrate it, where it stands in our own inventory, and what the friday’s decision may mean militarily, diplomatically, and economically.

I am, as always, in your debt.

David
Blinken, Antony J.

From: Seaton, James B.
To: @NSA - Natl Security Advisor
Cc: /R, Record at A1; Bell, Robert G.; Blinken, Antony J.; Dohse, Fred J.; Sens, Andrew D.; Soderberg, Nancy E.
Subject: JSTARS--Lake Charles [UNCLASSIFIED]
Date: Tuesday, October 22, 1996 9:05PM
Priority: High

Please pass to TL OR SB -- PRIOR TO THE MORNING STAFF MEETING WITH Leon Panetta

Please impress upon Leon Panetta the potential opportunity to influence efforts to advance NATO JSTARS acquisition during the President's Thursday visit to the Northrop Grumman plant in Lake Charles, LA.

We understand that current plans are to position a JSTARS aircraft -- the only JSTARS to participate in DESERT STORM and IFOR -- in front of the platform where the President will speak. The crowd will be between the stage and the aircraft, with some people on bleachers next to the plane. The backdrop for the event will be a 20x20 solid wall/curtain which will likely contain a message (possibly "jobs"). The cutaway shot from the press pool will be over the President's shoulder, looking out over the crowd and containing the nose of the aircraft. [It is not possible for the President to visit the aircraft, as there are too many people around the plane.]

We would urge the advance folks to attempt to ensure the possibility of a photographer obtaining a quality picture of the President with a JSTARS aircraft prominently featured in the background. This may in fact work in the scenario laid out above. On the other hand, the angle may not provide a shot that clearly portrays the JSTARS. If that is the case, we would ask the advance team to locate a position where a Northrop Grumman photographer could get a good angle shot to take such a picture. NORTHROP GRUMMAN CALLED US ON THIS TWICE TODAY. Bob Bell supports this effort.

We do not suggest changing the theme, or repositioning the aircraft to the rear of the President. Rather, we merely wish to take advantage of this prime opportunity to obtain a picture that could be printed in European media and possibly influence efforts to advance NATO JSTARS acquisition.

We have submitted points on NATO JSTARS for use in the President's speech

Semper Fidelis, Jim
When I was here as a candidate in 1992, this aircraft (aircraft T-2) was just back from DESERT STORM. Since then, it went over to Bosnia and performed superbly. In fact, T-2 is the only JSTARS aircraft to see service in two conflicts -- DESERT STORM, and Bosnia.

Responding to IFOR’s urgent requirement at the beginning of this year, we deployed JSTARS to Bosnia. This requirement was so important that we sent it over -- even though the system had not yet completed its testing. It performed superbly.

When I visited our troops in Bosnia last January, I went inside a ground station that was linked to JSTARS aircraft and saw firsthand the tremendous surveillance capabilities this system provided to IFOR field commanders.

I came away convinced that U.S. ground commanders must possess this capability in future operations. And just last month we took a significant step in ensuring this when the Department of Defense notified the Congress of our decision to procure 19 JSTARS for the U.S. Air Force.

I also took away from my visit to Bosnia the strong belief that JSTARS’ performance in support of IFOR clearly demonstrates its value in NATO operations. In the early stages of a potential crisis, both military commanders and political leaders require the clearest possible picture of the ground situation. JSTARS provides the clear picture.

NATO requires the kind of capabilities provided by this system. I have personally spoken to German Chancellor Kohl about JSTARS and our Government is working closely with NATO to urge the Alliance to rapidly move ahead in acquiring the capabilities resident in this great aircraft.

Points to make:

-- The President should acknowledge (and take credit for) last month’s Department of Defense decision to move the Joint Surveillance Target Attack Radar Systems (JSTARS, or “Joint STARS”) into full-rate production -- to procure 19 JSTARS aircraft for the U.S. Air Force.

-- JSTARS is the prime candidate for NATO missions; POTUS has spoken with Chancellor Kohl about JSTARS.

-- President should urge NATO’s military authorities to rapidly move ahead in identifying a need for a system which provides the capabilities that this aircraft provided to IFOR earlier this year.
I want all the people of Northrop Grumman to know how proud I am of the work you have done to develop the JSTARS surveillance system.

When I visited our troops in Bosnia last January, I visited a ground station linked to JSTARS aircraft flying high overhead. I saw for myself the remarkable capabilities of this technology. It can detect, identify and track fixed or moving targets as small as a jeep or patrol boat from up to 150 miles away -- by day or night, good weather or bad and within a search area of more than 35,000 square miles. It gives our military the clearest possible picture of the situation on the ground when they're called upon to keep the peace or win a war.

I came away from Bosnia convinced that our military needs this technology to dominate the battlefields of the future -- and last month, the Department of Defense decided to move forward with the JSTARS program and acquire 19 aircraft for the Air Force.

NATO also would benefit from a surveillance system with JSTAR's capabilities -- and we are working closely with our allies to get them to agree. [Just this morning, NATO's military committee agreed on the urgent need for an airborne surveillance system. I believe that system should be JSTARS.]
Global Mission

The Panavia Tornado is a versatile multirole aircraft, capable of performing a wide range of missions in various environments. Its advanced technology provides numerous advantages over other aircraft, making it an indispensable asset in today's military operations.

- **Situation Assessment**
  - Continuous Wide Area Surveillance
  - Day-Night and All Weather
  - Detect, Track, Movement and Locate
  - Track Targets in Real Time
  - Air, Surface, Land and Ground
  - Component Focus

- **Warfighting**
  - Improve Situational Awareness
  - Forces Multiplier
  - Better Synchronization
  - Enhance Ground Maneuver
  - Monitor Detection
  - Reduce Footprint
  - Decrease Vulnerability

- **Crisis Management**
  - Rapidly Deployable
  - Untethered
  - Non-Intrusive
  - Record and Playback on Site
  - Intelligent Fusion

- **War on Drugs**
  - Land and Sea Surveillance
  - Detect and Track Narcotics
  - Board Escort Missions
  - Track Patriots
  - Control Interception

- **Peace-Keeper**
  - Separation of Sides
  - Neutral Peacekeeping

- **National Disasters**
  - Monitoring and Surveillance Disaster Recovery
E-8C The System

Inside the dark expanse of a high-flying and mighty aircraft are complex systems of operation at some stations, monitoring and controlling the functions of the E-8C Joint STARS weapons system. Type II radars, located in various parts of the aircraft, provide data to the system's processors. This data is then used to generate images and other information that is displayed on the system's displays. The system's displays, located at different locations in the aircraft, provide a comprehensive view of the battlespace to the crew. The displays provide information such as the location of enemy forces, friendly forces, weather conditions, and other critical information that is necessary for effective decision-making.

The E-8C Joint STARS system is designed to operate in all weather conditions, on the move or stationary, and in coordination with other units of the Joint STARS system. The system's ability to operate in all weather conditions is critical for effective battlefield operations. The system's ability to operate on the move or stationary is equally important. The system's ability to coordinate with other units of the Joint STARS system is necessary for effective decision-making.

Primary Elements

- Airborne Platform
- Multimode Radar
- Communications
- Mission-Oriented Loss Reduction (MOLR)
- Special Survivability
- Information Systems
- Weapons Delivery
- Civilian Co-Operation
- Operations & Control Consoles
- User Ground Air Nodes

Many combat management lessons learned during the Gulf War with the developmental E-8As are incorporated in the current production E-8C Joint STARS system, including improved operator consoles, simplified communications, increased radar resolution, and post-mission data exploitation.

What the AWACS is to the air battle, Joint STARS is to ground warfare — and much more.
The heart of Joint STARS is its advanced multimode radar. Modes include Wide Area Surveillance (WAS)/Moving Target Indicator (MTI) and Synthetic Aperture Radar (SAR). WAS/MTI and SAR imaging are interleaved within the radar timeline. The system can detect, locate, track, and classify slow-moving ground and waterborne targets, helicopters and other low-flying vehicles, and rotating antennas.

The radar's antenna is a roll-stabilized, 24-foot-long, side-looking phased array housed in a protective 40-foot canoe-shaped radome under the forward fuselage. It is scanned electronically in azimuth and steered mechanically in elevation, from either side of the aircraft, to achieve high resolution of fixed or moving surface vehicles and even slow-moving airborne targets — throughout an area roughly equivalent to that of interest to a Corps Commander.

Electronic phase shifters allow near-instantaneous beam positioning over 60 degrees in azimuth. Multiple transmitters feed the antenna through a highpower combiner for greater range coverage and enhanced radar performance in adverse weather. Pulse compression, continuously variable PRF, area and sector blanking, and ECCM add to the performance and survivability of the system.

Radar signals are processed in three load-sharing, programmable signal processors, each containing five high-speed, fixed-point distributed processors. These continuously convert the radar signals into target coordinates. With the WAS/MTI mode, the radar can set up both range-referenced coverage areas (RRCA) and ground-referenced coverage areas (GRCA).