

# NOAA WP-3 SENEX 2013

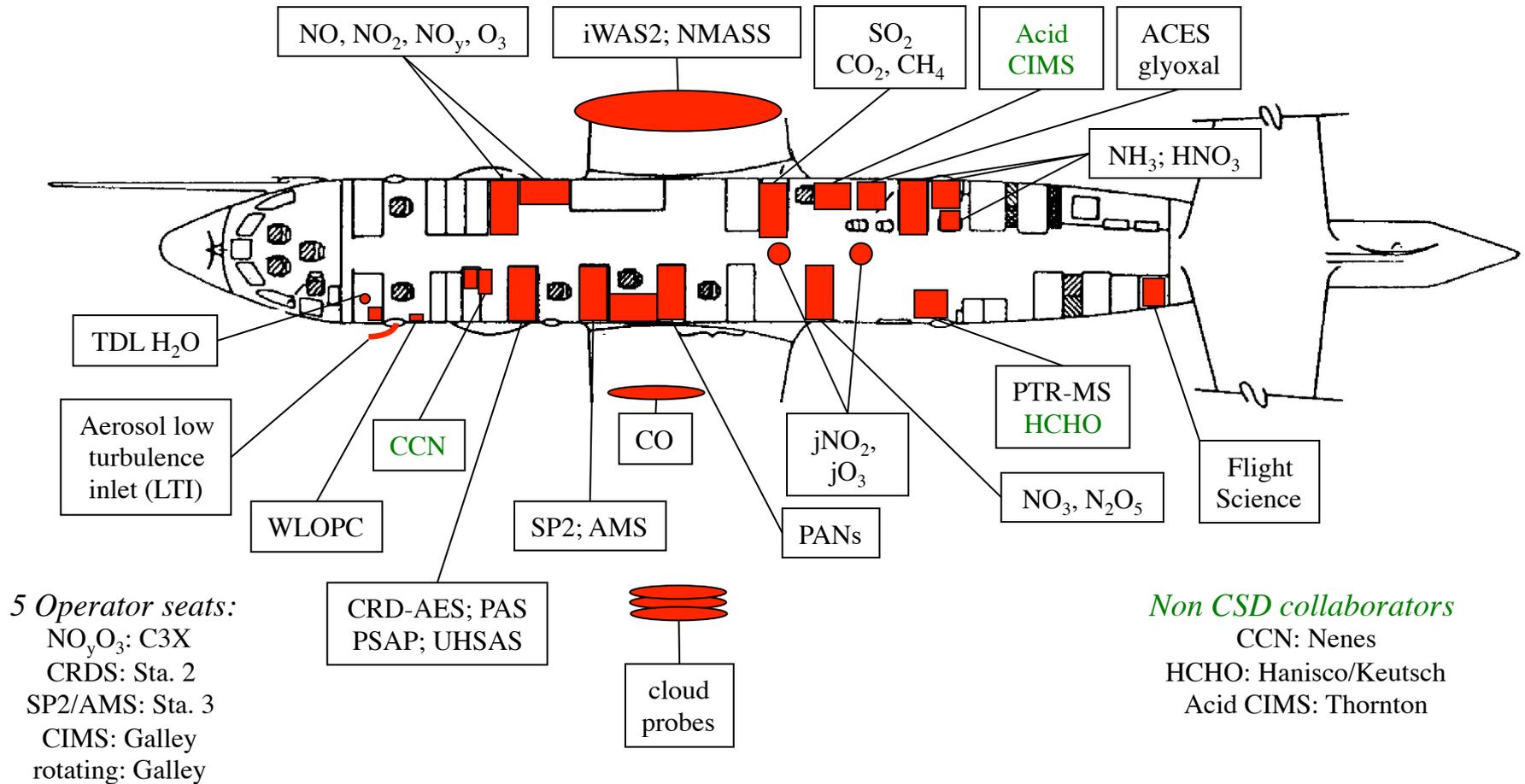
## Integration at MacDill

<http://esrl.noaa.gov/csd/projects/senex/>

- Payload
- Schedule
- Inlets, exhausts, power, weights, Ethernet
- Shipping
- Working at MacDill

# N42RF layout - SENEX 2013

NOAA-CSD version 4 11-09-2012



2-page instrument descriptions available on the website

# Integration Schedule for ~115 flight hours 6 weeks

## APRIL 2013

SENEX INTEGRATION  
SCHEDULE V6



MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY	
1	2	3	4	5	6	7	
				SENEX prep meeting			
8	9	10	11	12	13	14	
15	16	17	18	19	20	21	
Flatbed AMPS pod to Tampa	AOC only: inlets feet power CO pod pylon	AOC only: inlets feet power CO pod pylon	AOC only: inlets feet power CO pod pylon	Truck to Tampa	Shipping: April 19, 2013		
22	23	24	25	26	27	28	
Sta.2 Sta.8 WLOPC AMPS pod	Sta.2 Sta.8 WLOPC AMPS pod	Sta.2 Sta.8 WLOPC AMPS pod	Sta.2 Sta.8 WLOPC AMPS pod	Sta.2 Sta.8 WLOPC AMPS pod			
						Fed: Brock other: Hanisco FN: Graus, Lack CIRES: Lerner, Wagner, Gordon, Gilman	
29	30						
Sta.7+LIPF Sta.C3X Sta. 6a FliSci	Sta.7+LIPF Sta.C3X Sta. 6a FliSci	Sta.7+LIPF Sta.C3X Sta. 6a FliSci	Sta.7+LIPF Sta.C3X Sta. 6a FliSci	Sta.7+LIPF Sta.C3X Sta. 6a FliSci			
						Fed: Ryerson other: Lee, Lopez-Hilfiker CIRES: Neuman, Nowak, Pollack, Aikin	
		NOTES:					

Already done: exhaust, LTI, BF venturi, ship feet and windows

April 19: truck to Tampa

April 22-26: Sta 2, Sta 8, WLOPC, AMPS pod

April 29–May 2: Sta 7+LIPF, StaC3X, Sta 6a, Fli Sci

# Integration Schedule for ~115 flight hours 6 weeks

## MAY 2013

### SENEX INTEGRATION SCHEDULE V6



MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
		1	2	3	4	5
Sta.7+LIPF Sta.C3X Sta. 6a FliSci	Sta.7+LIPF Sta.C3X Sta. 6a FliSci	Sta.7+LIPF Sta.C3X Sta. 6a FliSci	Sta.7+LIPF Sta.C3X Sta. 6a FliSci	Sta.7+LIPF Sta.C3X Sta. 6a FliSci		
						Fed: Ryerson other: Lee, Lopez-Hilfiker CIRES:Neuman, Nowak, Pollack, Aikin
6	7	8	9	10	11	12
Sta. 3 Sta. 5 CO pod J-heads CCN	Sta. 3 Sta. 5 CO pod J-heads CCN	Sta. 3 Sta. 5 CO pod J-heads CCN	Sta. 3 Sta. 5 CO pod J-heads CCN	Sta. 3 Sta. 5 CO pod J-heads CCN		
						Fed: Middlebrook FN: Bougiatioti, Liao, Markovic CIRES: Holloway, Peischl, Lin, Schwarz
13	14	15	16	17	18	19
Sta. 4 Sta. 6b Dual Pass.	Sta. 4 Sta. 6b Dual Pass.	Sta. 4 Sta. 6b Dual Pass.	Sta. 4 Sta. 6b Dual Pass. HAZMAT inspect	Sta. 4 Sta. 6b Dual Pass. HAZMAT inspect		
						Fed: Brown, Roberts FN: Min, Edwards CIRES: Dube, Veres
20	21	22	23	24	25	26
AOC prep CCT funct. test flight GC to Nashville	AOC prep CCT funct. test flight	AOC prep CCT funct. test flight	AOC prep CCT funct. test flight	AOC prep CCT funct. test flight truck to Nashville		
27	28	29	30	31		
Memorial Day	Power checks and science flight	Power checks and science flight	Power checks and science flight	Power checks and science flight	access day	access day truck loading
		NOTES:				

May 6-10: Sta 3, Sta 5, CO pod, CCN, j-heads  
May 13-17: Sta 4, Sta 6b, Dual Pass  
May 20-24: AOC prep  
May 28-30: Power checks and science test flight

# Integration Schedule for ~115 flight hours 6 weeks

## JUNE 2013

SENEX INTEGRATION  
SCHEDULE V6



MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
					1	2
Memorial Day	Power checks and science flight	access day	access day truck loading			
3	4	5	6	7	8	9
Transit/Truck from Tampa to Nashville	Nashville	Nashville	Nashville	Nashville	Nashville	Nashville
10	11	12	13	14	15	16
Nashville	Nashville	Nashville	Nashville	Nashville	Nashville	Nashville
17	18	19	20	21	22	23
Nashville	Nashville	Nashville	Nashville	Nashville	Nashville	Nashville
24	25	26	27	28	29	30
Nashville	Nashville	Nashville	Nashville	Nashville	Nashville	Nashville
		NOTES:				

June 1-2: access days

June 3: Transit to Nashville

# Integration Schedule for ~115 flight hours 6 weeks

## SENEX INTEGRATION SCHEDULE V6



# JULY 2013

MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	SUNDAY
1 Nashville	2 Nashville	3 Nashville	4 Nashville	5 Nashville	6 Nashville	7 Nashville
8 Nashville	9 Nashville	10 Nashville	11 Nashville	12 Nashville	13 Nashville	14 Nashville
15 Transit to Tampa Truck to Tampa	16 de-integration in Tampa	17 de-integration in Tampa	18 packing and loading	19 Truck to Boulder	20	21
22	23	24	25	26	27	28
29	30	31				
		NOTES:				

July 15: transit to Tampa  
July 16-17: de-integration  
July 19: truck to Boulder  
July 22: unload truck go to the Rio

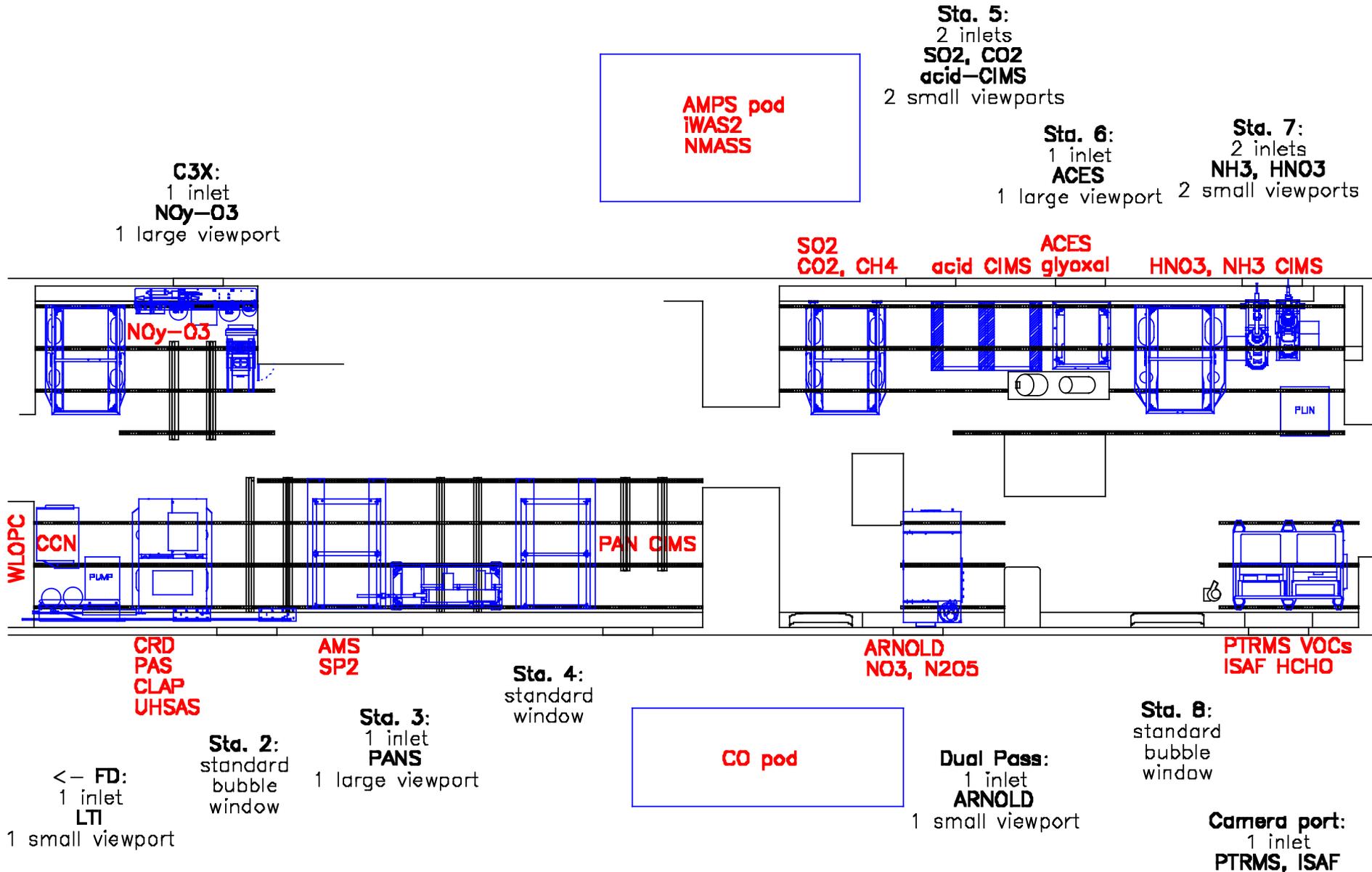
# Integration Schedule for ~115 flight hours 6 weeks

- 30 people going to Tampa
- Please make your travel arrangements accordingly and be flexible
- Try to consolidate rental cars
- In Tampa Springhill Suites (or Chase Suites)

Springhill Suites  
4835 West Cypress St  
Tampa FL US 33607

- Jane August on vacation first two weeks of June
- After travel for Tampa is set:  
arrange for deployment travel: Tampa/Smyrna/Tampa

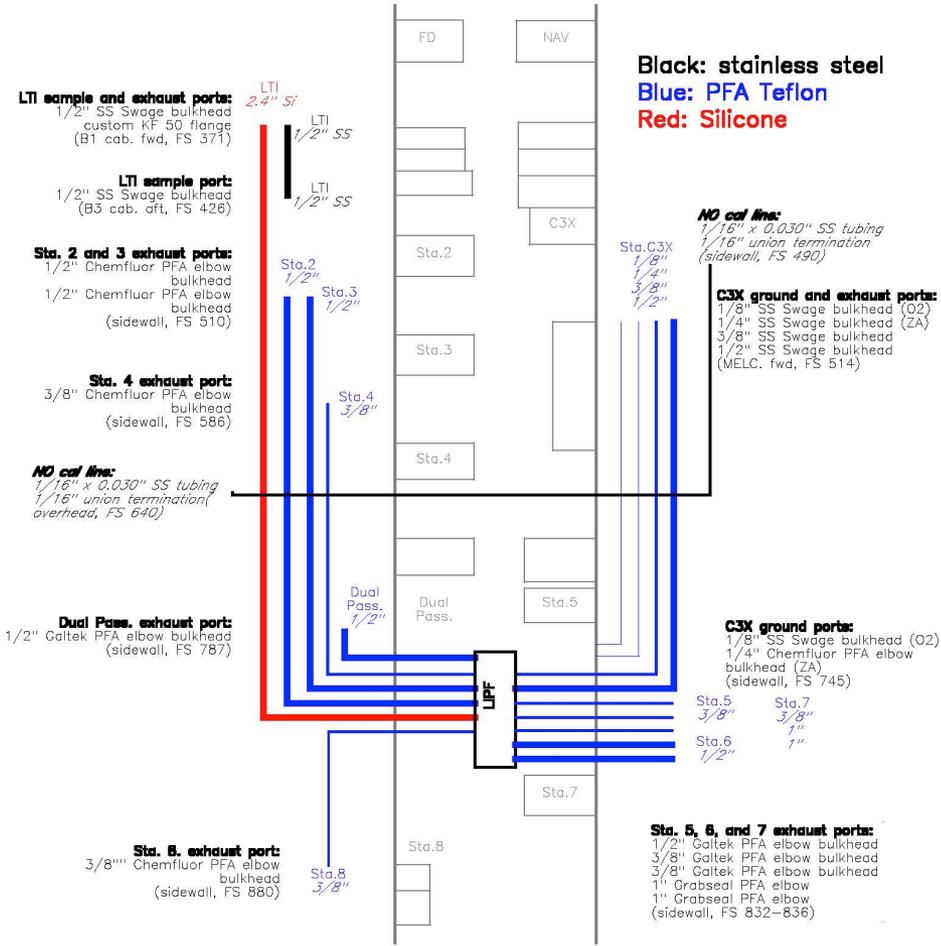
# Installation of Inlet, Exhaust, Power, Weights and Ethernet



# Installation of Inlet, Exhaust, Power, Weights and Ethernet

## N42RF exhaust plumbing layout

version 3, 4/3/2013



note: Galtech has integral ferrule  
 Chemfluor has separate single teflon ferrule

# Installation of Inlet, Exhaust, Power, Weights and Ethernet

## Weights

- Total of our equipment: 7777 lbs
- All new heavy installations have been cleared with AOC structural engineer
- Let me know about the final weights for individual instruments
- Rack feet should be already installed, when we arrive

## Exhaust

- N42RF exhaust and LTI installed March 2013
- Thanks Andy Neuman and Chuck Brock

## Inlet

- Window plates already send (except C3X)
- Window plates should be already installed, when we arrive (LTI and Sta 8 are done)

## Rack installation

- Heavy racks to the front (and back) of the plane as light as possible for install

# Installation: Inlet, Exhaust, Power, Weights and Ethernet

## Power

- 400 Hz: 170 A, 60 Hz: 42 A, 28 V: 52 A, 3-phase: 41 A
- Cables for each rack are being installed already
- Let me know, if there are any changes to the power requirements

## Ethernet/data streams

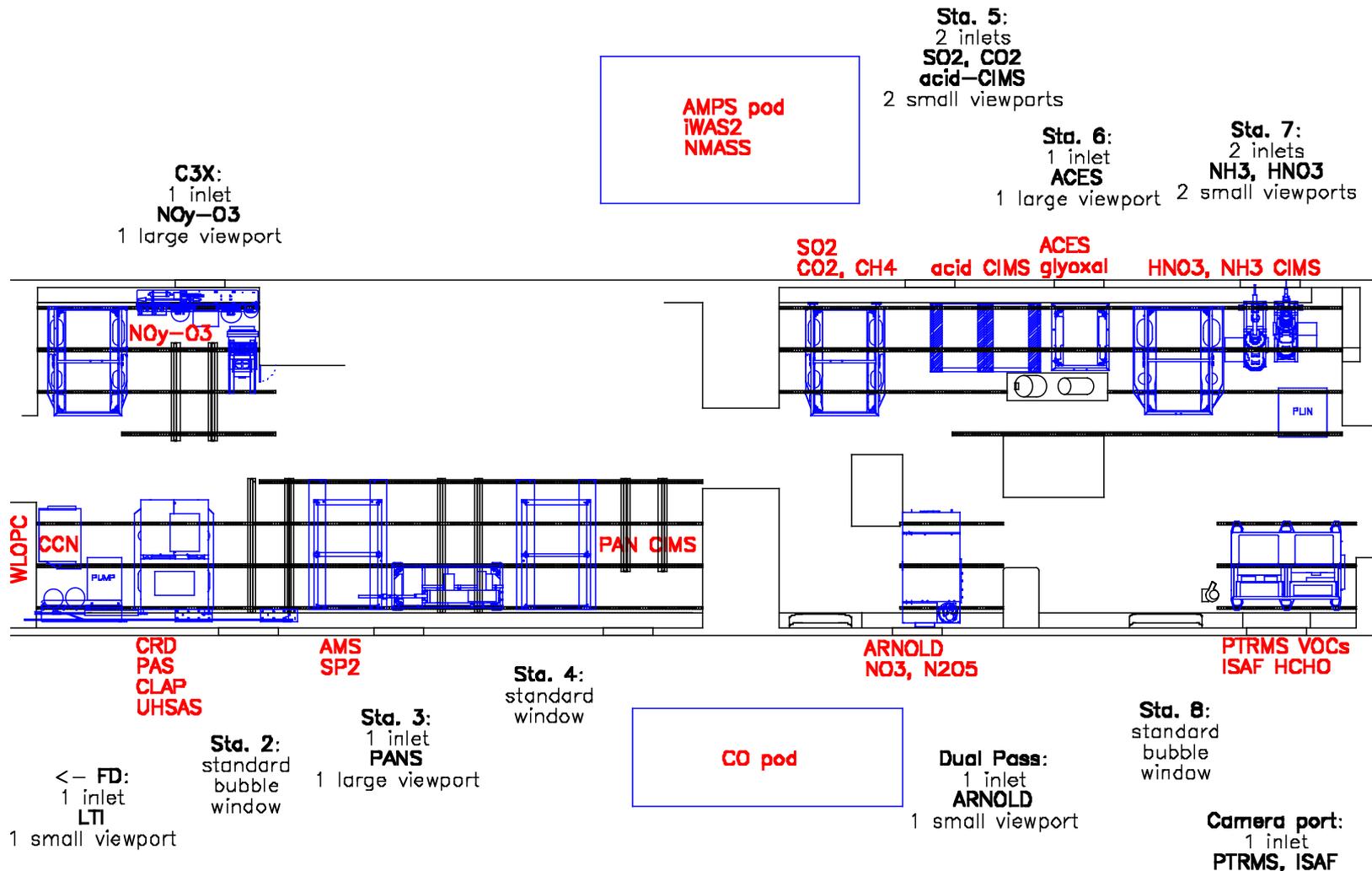
- Every station gets at least one cable
- Serial cable only for Flight Science computer
- Computer available in galley for data and x-chat
- If you read in aircraft data in flight (UDP), contact Ken Aikin for changes
- If you want your data in the live data download, contact Ken Aikin

## Weekly plan

- Discuss with each PI the individual installation
- Relay a weekly installation plan to AOC

# Installation of Inlet, Exhaust, Power, Weights and Ethernet

If there are any questions left about any of these items, they need to be addressed immediately



# Shipping Boulder to Tampa and Nashville

## Boulder to Tampa April 19:

- Landstar truck from Boulder to Tampa (thanks George Angel)
- Ship gas bottles for Tampa from here
- **Need to know what gas bottles go on the truck by next Monday**
- Flatbed with Amps pod to Tampa likely April 15 (anything else on this truck?)

## Boulder to Nashville and Tampa to Nashville:

- Truck size for shipping from Boulder to Nashville and Tampa to Nashville
- Need volunteer for arranging gas bottles order to Nashville

# Working at MacDill AFB NOAA AOC Hangar

## Access to the Air Force Base:

- CAC card should get you through the gate
- All Non-CAC card holders need to go to the visitors center with an ID: drivers license for US citizen and passport for foreign nationals
- Paperwork should be there
- Foreign Nationals need to fill out Appendix C at AOC
- Our federal employee are escort for foreign nationals at AOC  
(Brock, Ryerson, Middlebrook, Brown, Roberts)

# Working at MacDill AFB NOAA AOC Hangar

Tool and FOD Control Policy (**important to follow the rules**):

- Review Official policy documents from AOC:  
<http://esrl.noaa.gov/csd/groups/csd7/measurements/2013senex/P3/integration/policies/>
- Mark Rodgers at AOC is Tool Control and Safety Sponsor for SENEX
- **don't bring your own tools into the hangar**
- Tools are available from AOC in Hangar (with key) and office/lab (with chits)
- Specialty tools bring in shadow box with inventory and signed off EVERY day
- **Foreign Object Damage/Debris Prevention Program**
- Check for fasteners/screws
- Careful with loose objects
- Clean up after yourself

# Working at MacDill AFB NOAA AOC Hangar

	<b>AIRCRAFT OPERATIONS CENTER</b> NOAA Office of Marine and Aviation Operations	CATEGORY 209
	AUTHORIZED BY: 	EFFECTIVE DATE March 9, 2012
	CAPT Randall J. TeBeest, NOAA Commanding Officer, Aircraft Operations Center	REVIEW DATE January 15, 2013
		RESPONSIBLE Safety, Standardization & Training Branch

## POLICY 209-2

### FOREIGN OBJECT DAMAGE (FOD)/DEBRIS PREVENTION PROGRAM

#### SECTION 1. PURPOSE.

1.01 This Foreign Object Damage/Debris (FOD) Prevention Program establishes policy, responsibilities, and requirements to prevent damage to aircraft, engines, scientific equipment and other aeronautical equipment, and provides for a uniform FOD prevention procedure.

#### SECTION 2. SCOPE.

- 2.01 An effective FOD Prevention Program, which identifies, corrects, and eliminates causal factors is everybody's responsibility, and must be part of the safety culture at AOC.
- 2.02 FOD prevention training is a continual effort to increase the awareness of the cause and effects of FOD, and to promote active employee participation in FOD elimination. A successful program requires a concentrated effort by all assigned personnel and contractors in preventing FOD and FOD related occurrences.
- 2.03 "FOD Walks", typically weekly, should be performed as required in both the hangar and flight line areas. Spot checks should be performed whenever it is deemed necessary due to unusual activity on the ramp and in the hangar (maintenance, air show, transient aircraft, etc). FOD is a common concern. When FOD walks are announced, all available personnel are expected to assist.

#### SECTION 3. RESPONSIBILITIES.

3.01 The Production Controller/Assistant or Designee shall:

Ensure all personnel adhere to this procedure and has responsibility for the overall program requirements. The production Controller may delegate to subordinates, but maintains overall responsibility and accountability.

	<b>AIRCRAFT OPERATIONS CENTER</b> NOAA Office of Marine and Aviation Operations	CATEGORY 221
	AUTHORIZED BY: 	EFFECTIVE DATE November 1, 2011
	CAPT Randall J. TeBeest, NOAA Commanding Officer, Aircraft Operations Center	REVIEW DATE October 1, 2012
		Chief, Maintenance Branch

## POLICY 221-13

### TOOL CONTROL AND ACCOUNTABILITY POLICY

#### SECTION 1. PURPOSE.

1.01 The primary objective of a tool control policy is to substantially reduce or eliminate aircraft accidents or incidents, including possible loss of life or damage to equipment, caused by the improper accountability of tools. This policy establishes Aircraft Operations Center (AOC) procedures for the control and accountability of tools, consumables, miscellaneous parts, in, on, and around Hangar 5, MacDill Air Force Base, Florida, deployed NOAA aircraft, and pre-positioned NOAA aircraft, i.e. Snow Survey, Remote Sensing Division, West Coast Otter Operations.

#### SECTION 2. DEFINITIONS AND ACRONYMS.

- AMB Aviation Maintenance Branch.
- AOC Aircraft Operations Center
- Consumables Expendable supplies not conducive to one of the marking methods in Section 4.01. Examples include: issued work apparel, glue, paint, sealant, rags, sandpaper, brushes, applicators, etc.
- FOD Foreign Object Damage.
- Miscellaneous Parts Supplies frequently used that are not conducive to one of the marking methods in Section 4.01. Examples include: rivets, washers, fasteners, drill bits, apex tips, wire, mechanical pencils, pens, etc.
- NOAA National Oceanic and Atmospheric Administration.
- PMEL/Calibrated Tool Monitor The individual designated to monitor the serviceability, calibration, and accountability of Precision Measuring Equipment Laboratory/Calibrated Tools.

# Working at MacDill AFB NOAA AOC Hangar

## Internet access:

- Fill out these forms by coming Monday:

<http://esrl.noaa.gov/csd/groups/csd7/measurements/2013senex/P3/integration/policies/>

NOAA2306 Access Agreement CHECKLIST – (for people)

NON NOAA2306 Equipment CONNECTION CHECKLIST— (for machines)

- Send to Sean McMillan: [sean.t.mcmillan@noaa.gov](mailto:sean.t.mcmillan@noaa.gov) well before going to Tampa
- Possible wireless access

## Safety shoes:

- Safety shoes are required in and around aircraft (Smyrna as well)

## Aviation Safety training for flying:

- Online course for NOAA/CIRES (e-learning center)

<http://esrl.noaa.gov/csd/groups/csd7/measurements/2013senex/P3/integration/policies/>

- Non-NOAA people need to do it at MacDill or Smyrna (with a NOAA person)
- Without water survival training three over-water flights possible per person
- For further details: watch for email from Joost

# Working at MacDill AFB NOAA AOC Hangar

## HazMat:

- All HazMat is in the AOC system (not needed for AF MacDill system)
- Bring your own bottle carts (or make sure you know which one you can use)
- Proper personal protection equipment (PPE)
- radioactive sources (contact Ann Middlebrook)
- MacDill's Fire and Rescue dept has to come by and observe install (May 16-17)
- Gas bottles and UPS need current certification

## Safety brief:

- Every Monday for each group

## Early start:

- Usually 7AM ET

## Driving:

- Always have your badge with you
- no talking on cell phone
- don't exceed speed limit
- turn head lights off and take off sun glasses at gate

<http://esrl.noaa.gov/csd/projects/senex/>

Shipping date: April 19, 2013  
(2 weeks from today)

**To Do for the 30 people going to Tampa:**

- Arrange travel for Tampa
- Read AOC policy forms
- Get safety shoes
- Get ready and plan for shipping

**To Do by Monday April 8:**

- How many gas bottles on the truck (weight and size)
- Fill out internet access form