

NOUS41 KWBC 191840
PNSWSH

PUBLIC INFORMATION STATEMENT...TECHNICAL IMPLEMENTATION NOTICE 03-15
NATIONAL WEATHER SERVICE HEADQUARTERS WASHINGTON DC
140 PM EST WED MAR 19 2003

TO: FAMILY OF SERVICES /FOS/ SUBSCRIBERS
NOAA WEATHER WIRE SERVICE /NWWS/ SUBSCRIBERS
EMERGENCY MANAGERS WEATHER INFORMATION NETWORK /EMWIN/
SUBSCRIBERS
NOAAPORT SUBSCRIBERS
OTHER CUSTOMERS OF NWS AVIATION DATA AND FORECASTS
NWS EMPLOYEES

FROM: RAINER DOMBROWSKY
CHIEF...OBSERVING SERVICES DIVISION

SUBJECT: AUTOMATED SURFACE OBSERVING SYSTEM WIND SENSOR REPLACEMENT

REFER TO: [TECHNICAL IMPLEMENTATION NOTICE /TIN/ 02-30](#)...DATED OCTOBER 25
2002.

NOTE: THE FOLLOWING CHANGES HAVE NO DIRECT IMPACT ON NOAA WEATHER WIRE
SERVICE SUBSCRIBERS.

THE AUTOMATED SURFACE OBSERVING SYSTEM /ASOS/ PRODUCT IMPROVEMENT PROGRAM
WILL SOON DEPLOY A REPLACEMENT WIND SENSOR. THE NEW SENSOR WILL REPORT
WIND INFORMATION USING THE 3-SECOND WORLD METEOROLOGICAL ORGANIZATION
/WMO/ GUST STANDARD.

THE CURRENT ASOS WIND SENSOR /BELFORT 2000/ USES ROTATING CUPS TO MEASURE
WIND SPEED AND A VANE TO MEASURE WIND DIRECTION. OVER A 2-MINUTE
PERIOD...ASOS USES TWENTY-FOUR 5-SECOND AVERAGES TO DETERMINE THE 2-MINUTE
AVERAGE WIND SPEED AND DIRECTION. EVERY MINUTE...ASOS STORES THE HIGHEST
5-SECOND AVERAGE SPEED FOR THE PAST MINUTE...ALONG WITH ITS DIRECTION...IN
THE 12-HOUR ARCHIVE FOR ADDITIONAL PROCESSING. THIS HIGHEST SPEED VALUE
IS USED TO DETERMINE IF A GUST AND/OR A PEAK WIND REMARK WILL BE REPORTED.

THE NEW ASOS WIND SENSOR /VAISALA 425NWS/ IS A SONIC ANEMOMETER. IT HAS
NO MOVING PARTS AND WILL OPERATE BETTER IN WINTER WEATHER CONDITIONS. AS
WITH THE BELFORT SENSOR...OVER A 2-MINUTE PERIOD...ASOS USES TWENTY-FOUR
5-SECOND AVERAGES TO DETERMINE THE MINUTE AVERAGE WIND SPEED AND
DIRECTION. BUT THE HIGHEST SECOND RUNNING AVERAGE SPEED IS STORED FOR
GUST AND PEAK WIND PROCESSING.

WHILE THERE WILL BE LITTLE DIFFERENCE IN 2-MINUTE AVERAGE WIND SPEED AND
DIRECTION REPORTING...THE CHANGES IN GUST AND PEAK WIND REPORTING MAY BE
SIGNIFICANT. WE CAN EXPECT TO SEE MORE GUSTS AND PEAK WINDS REPORTED WITH
THE NEW SENSOR. THE MASS OF THE MOVING PARTS IN EXISTING SENSORS LIMITS
RESPONSIVENESS. THE NEW SENSOR WILL BE MORE RESPONSIVE TO SHORT TERM
GUSTS.

THE LAST ACTIVITY PRIOR TO IMPLEMENTATION AT 313 NWS AND 570 FAA SPONSORED SITES IS A 20 SITE OPERATIONAL ACCEPTANCE TEST /OAT/. THE OAT BEGAN IN MID-SEPTEMBER OF 2002. EIGHTEEN /18/ OF THE 20 OAT SITES ARE CONFIGURED WITH DUAL SENSORS...BOTH THE EXISTING AND NEW SENSOR. THE EXISTING SENSOR IS BEING USED FOR THE OFFICIAL OBSERVATION AT LOCATIONS WHERE DUAL SENSORS ARE INSTALLED. DATA FROM THE NEW SENSOR OUTPUT IS BEING ARCHIVED FOR ANALYSIS. WHEN THE ANALYSIS VALIDATES THE NEW SENSOR PERFORMANCE...THE PROCESSING WILL BE CHANGED TO USE THE NEW SENSOR FOR THE OFFICIAL OBSERVATION AND THE NEW SENSORS WILL BE INSTALLED AT THE REMAINING TWO SINGLE SENSOR OAT SITES. BELFORT SENSOR DATA WILL CONTINUE TO BE ARCHIVED AT THE DUAL SENSOR SITES FOR FURTHER ANALYSIS. THIS CHANGE IN THE USE OF SENSORS IS EXPECTED TO OCCUR IN APRIL 2003. FOLLOWING A SUCCESSFUL OAT...FULL SCALE DEPLOYMENT OF THE NEW SENSOR WILL BEGIN IN JUNE OF 2003 AND EXTEND THROUGH SEPTEMBER 2005.

OAT LOCATIONS:

SID	STATION NAME	CONFIGURATION	DEPLOYMENT DATE
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BRW	BARROW AK	DUAL	JANUARY 2003
TKA	TALKEETNA AK	DUAL	JANUARY 2003
KTN	KETCHICAN AK	DUAL	JANUARY 2003
SIT	SITKA AK	DUAL	JANUARY 2003
CMX	HANCOCK MI	DUAL	NOVEMBER 2002
GFK	GRAND FORKS ND	DUAL	OCTOBER 2002
TOP	TOPEKA KS	DUAL	OCTOBER 2002
BFF	SCOTTSBLUFF NE	DUAL	MARCH 2003
HUF	TERRA HAUTE IN	DUAL	JANUARY 2003
OSH	OSH KOSH WI	DUAL	NOVEMBER 2002
ARR	CHICAGO/AURORA IL	DUAL	DECEMBER 2002
FTW	FORT WORTH TX	DUAL	FEBRUARY 2003
NEW	NEW ORLEANS LA	DUAL	JANUARY 2003
LLJ	CHALLIS ID	DUAL	NOVEMBER 2003
UAO	AURORA OR	DUAL	JANUARY 2003
BLU	BLUE CANYON CA	DUAL	OCTOBER 2003
BTV	BURLINGTON VT	DUAL	SEPTEMBER 2003
CAR	CARIBOU ME	DUAL	SEPTEMBER 2003
ITO	HILO HI	SINGLE	APRIL 2003
SFO	SAN FRANCISCO CA	SINGLE	APRIL 2003

IF YOU HAVE ANY QUESTIONS ABOUT THIS CHANGE...PLEASE CONTACT ONE OF THE FOLLOWING INDIVIDUALS AT NWS HEADQUARTERS:

TIMOTHY ROSS
 SURFACE OBSERVATIONS PROGRAM MANAGER
 SILVER SPRING MARYLAND
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OR

RICHARD AHLBERG
ASOS PLANNED PRODUCT IMPROVEMENT PROGRAM MANAGER
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NATIONAL TECHNICAL IMPLEMENTATION NOTICES ARE ONLINE AT /USE LOWER CASE/:

[HTTPS://WWW.WEATHER.GOV/NOTIFICATION/ARCHIVE](https://www.weather.gov/notification/archive)

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