

Dissemination to the Flight Crew

- Snowfall rate and temperature from the system will be broadcast via radio frequency

Example message:

At nine thirty Eastern Standard Time the snowfall rate is moderate and the temperature is minus three degrees Celsius.

- Message will update every minute
- A Notice will be issued by FAA Flight Standards indicating the airports and frequencies where this information will be available.

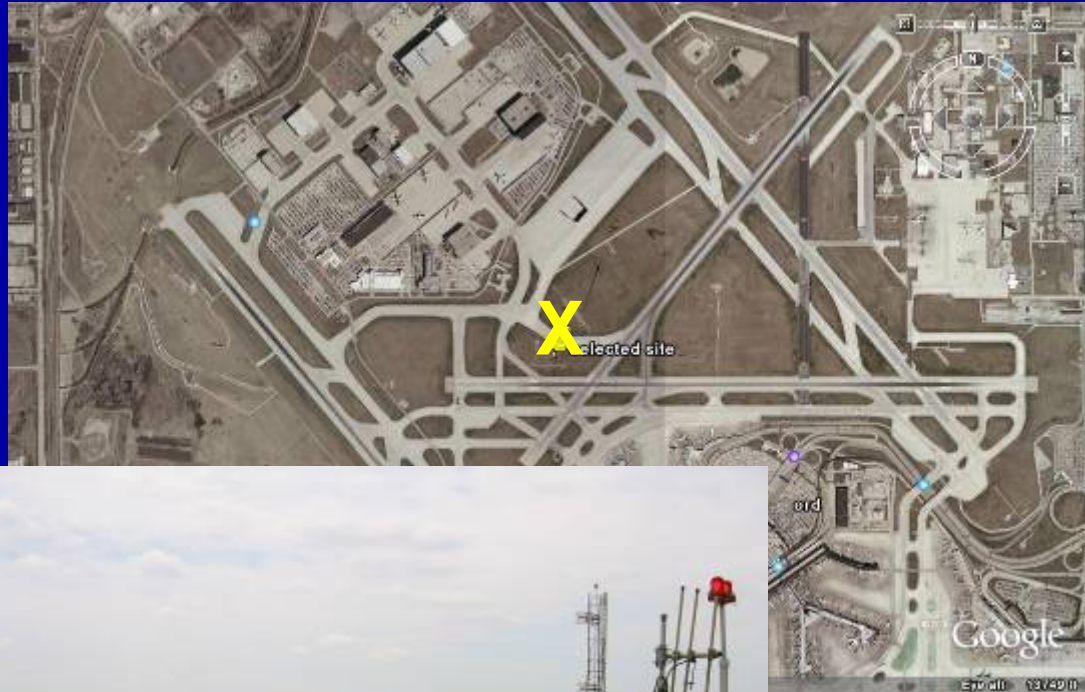
Pittsburgh

- Contacts:
 - Integrated Deicing Services (IDS) - Amor Davis, Larry Hopkins, Darin Radkey, JP Savage, RK Moore



Chicago O'Hare

- Contacts:
 - United Airlines – Steve Bastas, Mike Clark, Jack Lampe, Robert Chrobak, Craig Palmer, Bob Jordan
 - American Airlines – Tyrone Hamilton, Tom Powers, Ray Morgan, Rob Cumley
 - City of Chicago – George Glyman, Alfonso Perez, Steve Crim



Denver International Airport

- Contacts
 - United Airlines – Barb Reis
 - City of Denver – Bob Carsella



Minneapolis/St. Paul Airport

- Contacts
 - Northwest Airlines – Tom Fahey, Doug Witt, Brian Anderson
 - Vaisala – Timo Honkanen, Scott Pless, Tim Sobolewski



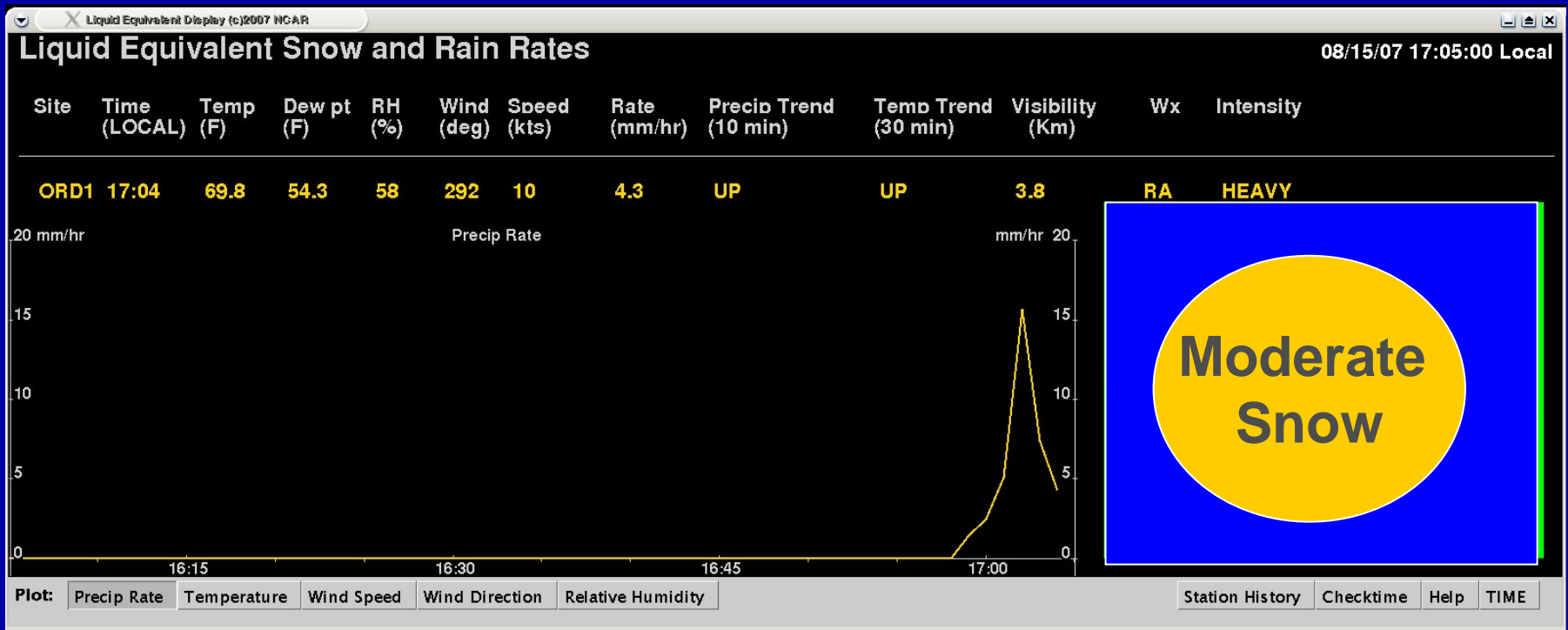
Example LWE display

No Precipitation



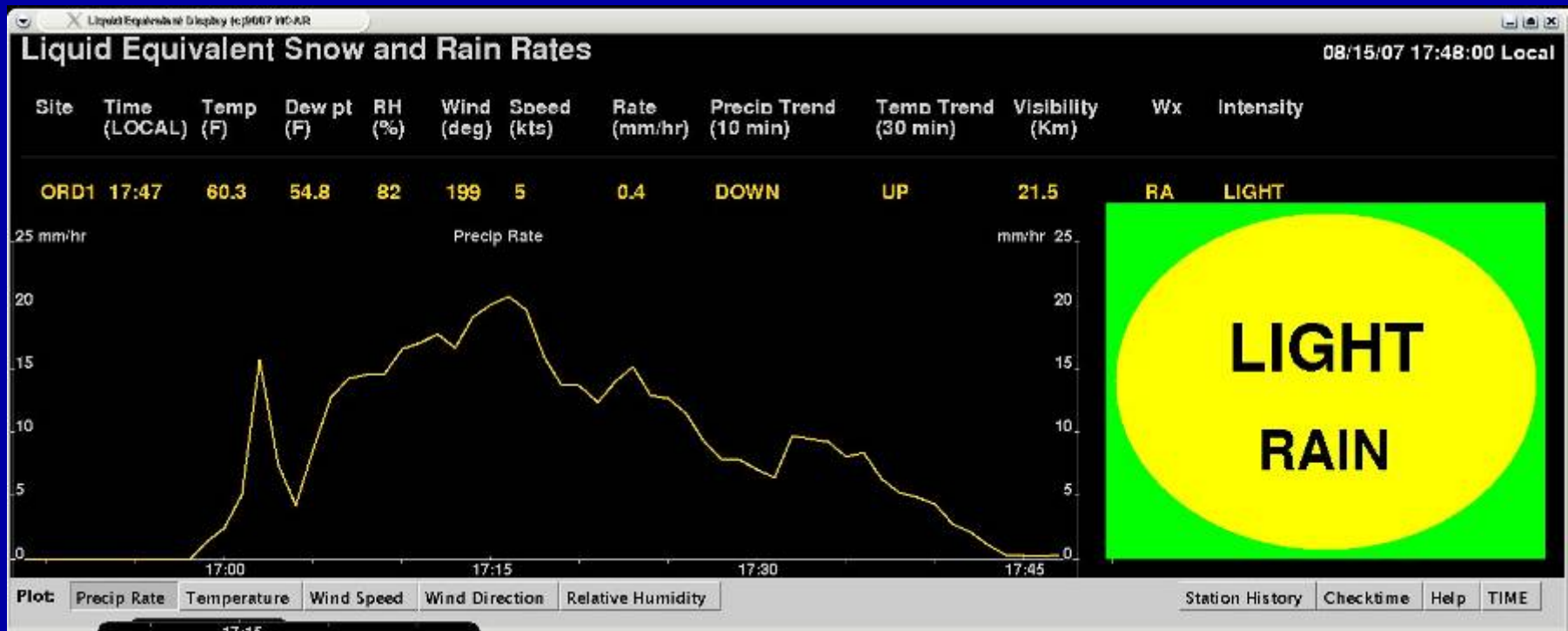
Example LWE display

Moderate Snow



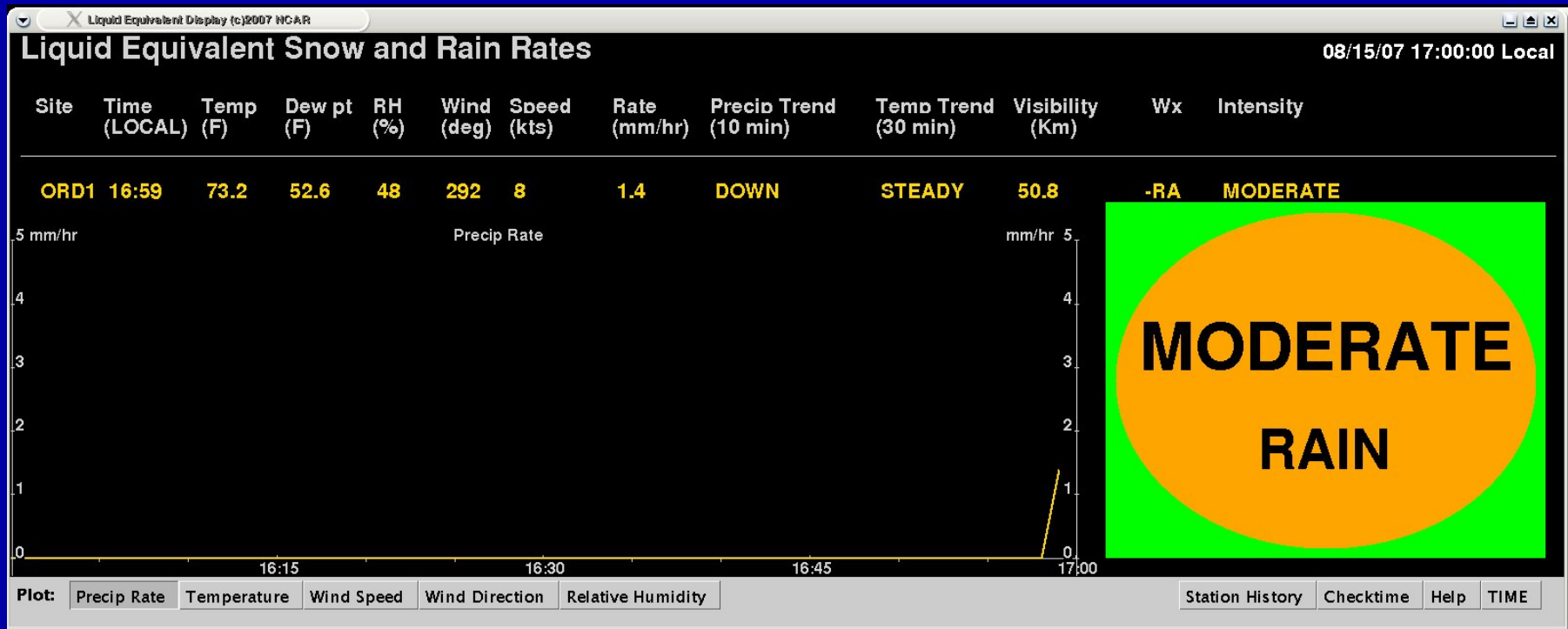
Example LWE display

Light Rain



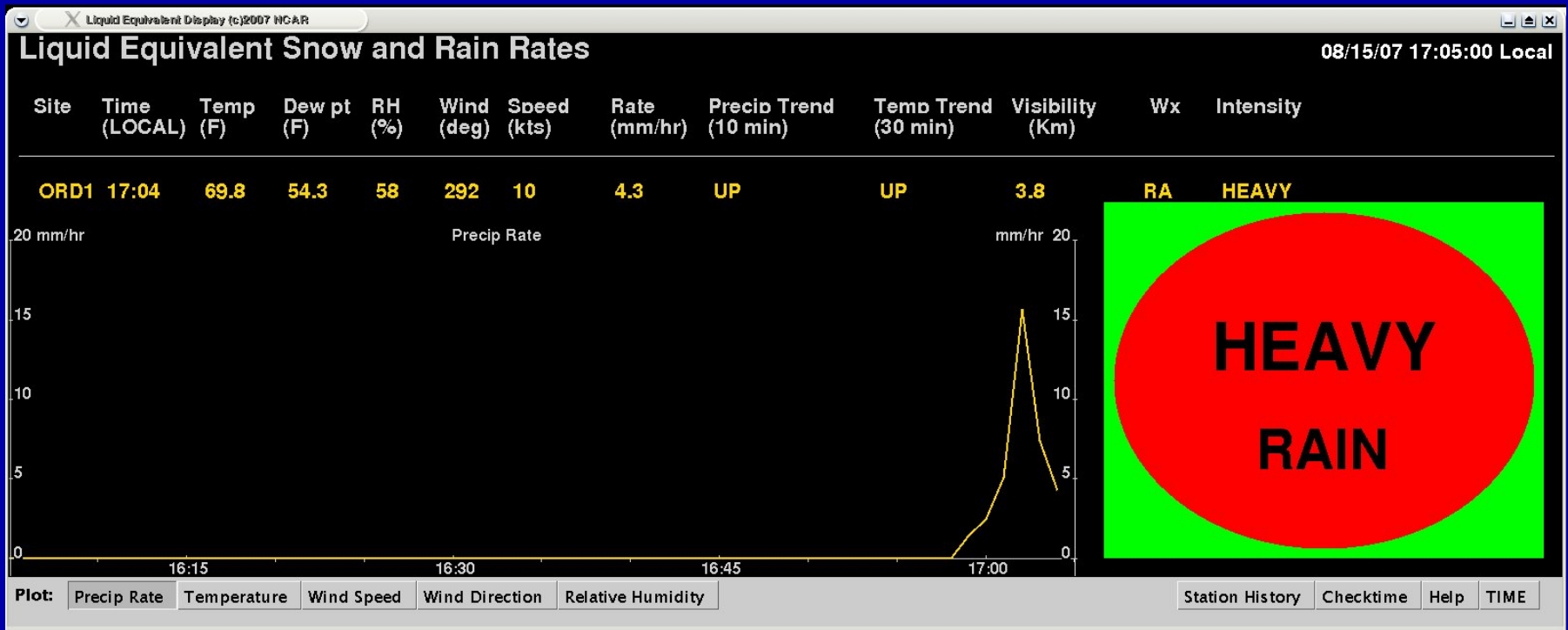
Example LWE display

Moderate Rain



Example LWE display

Heavy Rain



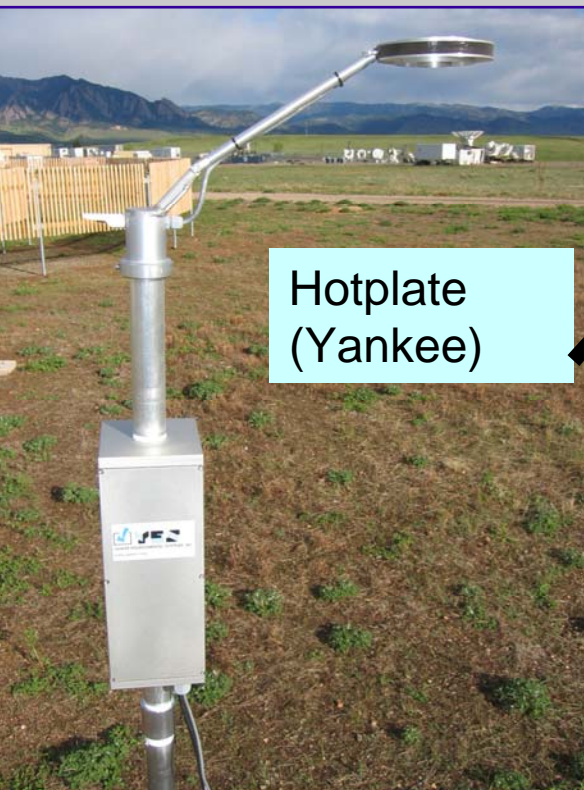
Precipitation Type sensor
(Vaisala PWD-22) EPI
sensor



All Precip LWE System



Freezing Rain sensor
(Goodrich)



Hotplate
(Yankee)



- Holdover Time determination
- Checktime determination

Weighing Snowgauge
(GEONOR)



Other Future Items

Check Time capability

Nowcast and forecast LWE and Check Time



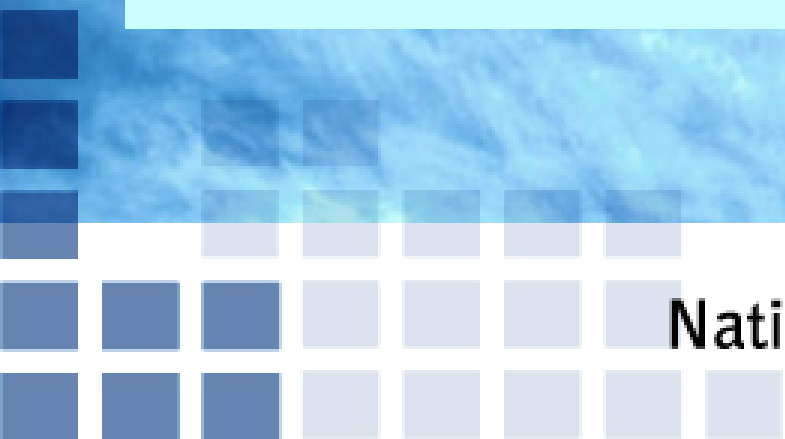
NCAR



What is Check Time?

A method to monitor holdover time from the last step of deicing to failure using the actual one minute liquid equivalent rate and temperature from on-field sensors.

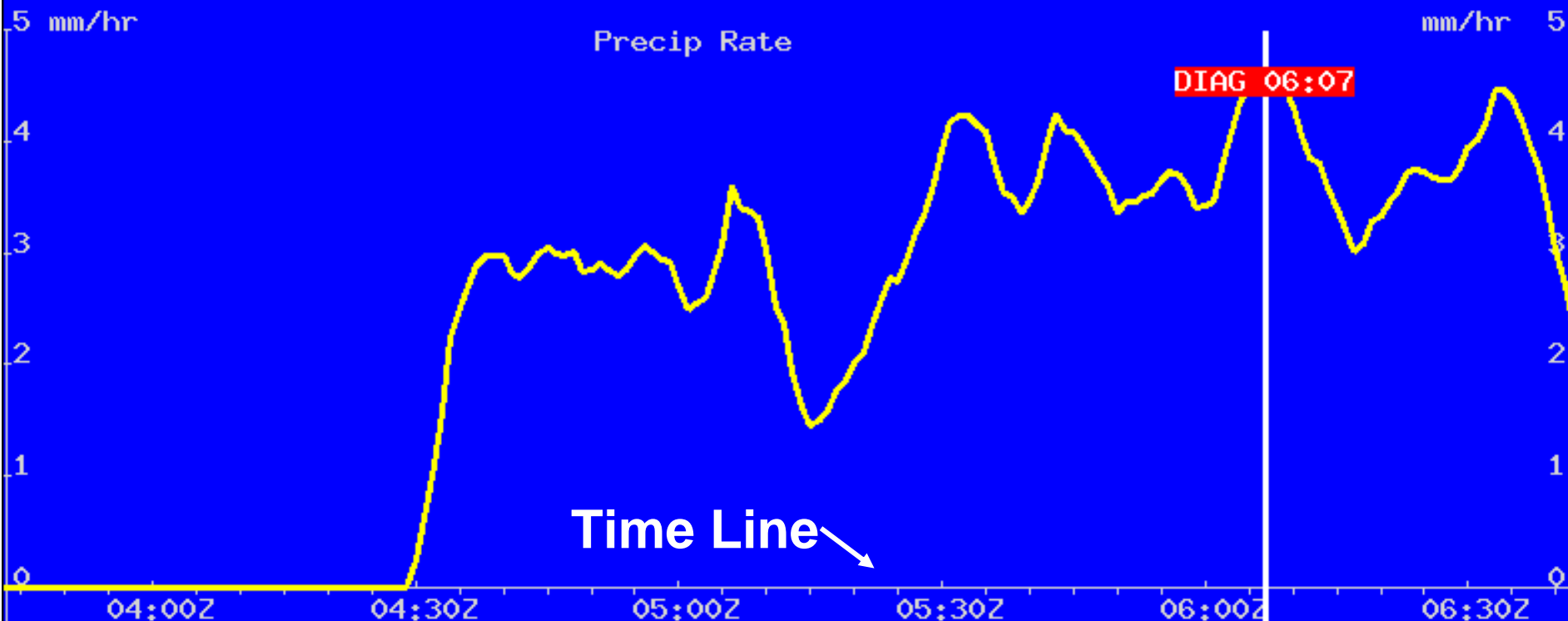
National Center for Atmospheric Research



Octagon 100% CHECK TIME: 06:07 -36.0 min 03/18/03 06:43:00 Z ->

Site	Time (UTC)	Temp (F)	Dew pt (F)	RH (%)	Wind (deg)	Speed (kts)	Rate (mm/hr)	Intensity	TREND (10 min)
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DIAG	06:43	36.8	36.8	100	22	10	2.1	MOD	Present time DOWN
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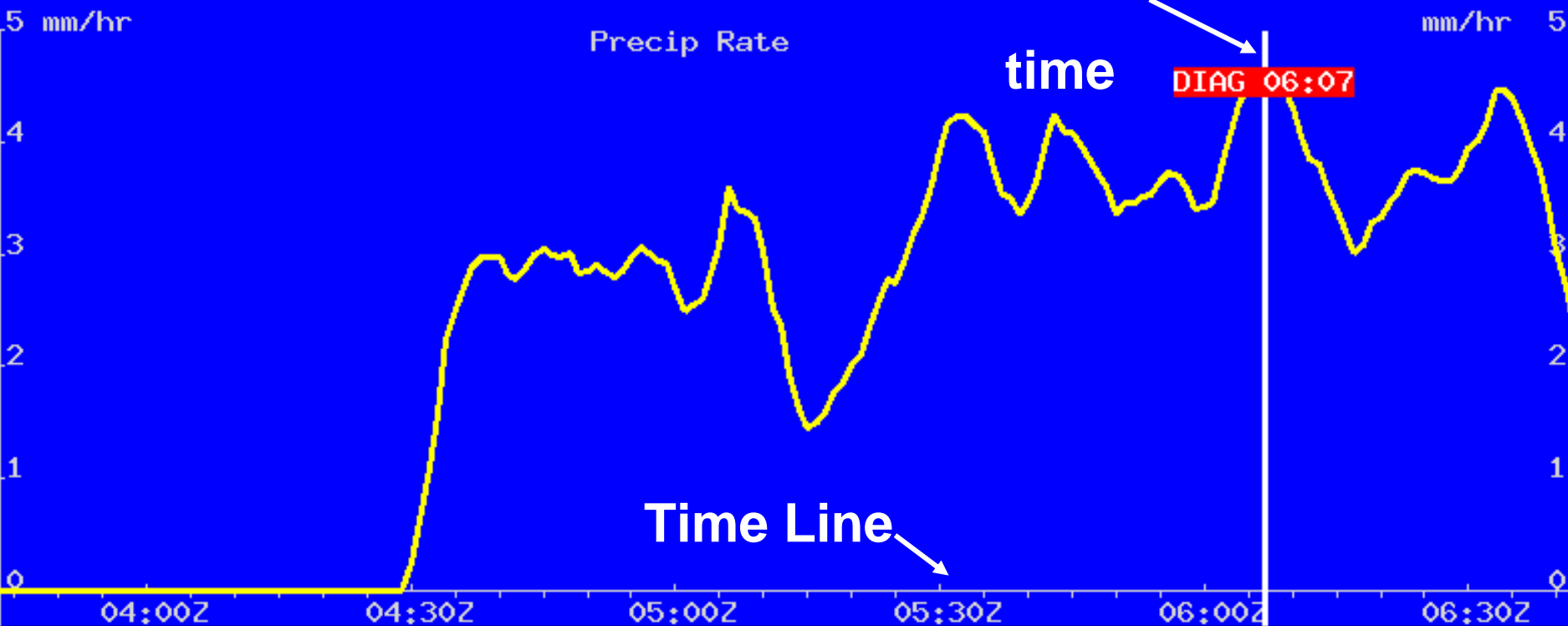
Precip Rate Accum Temp Humid Wind Spd Dir

Fluid: Type 1 Octagon 100% 75% 50% KF ABCs

Octagon 100% CHECK TIME: 06:07 -36.0 min 03/18/03 06:43:00 Z ->

Site	Time (UTC)	Temp (F)	Dew pt (F)	RH (%)	Wind (deg)	Speed (kts)	Rate (mm/hr)	Intensity	TREND (10 min)
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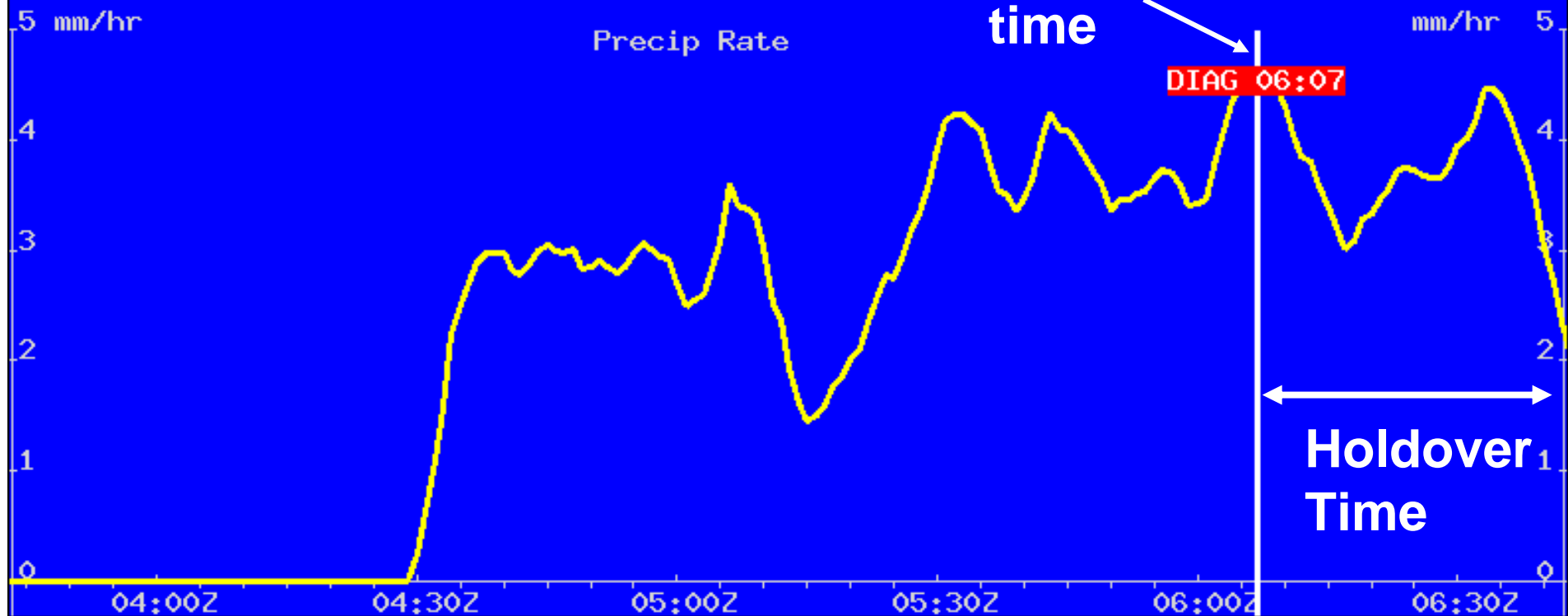
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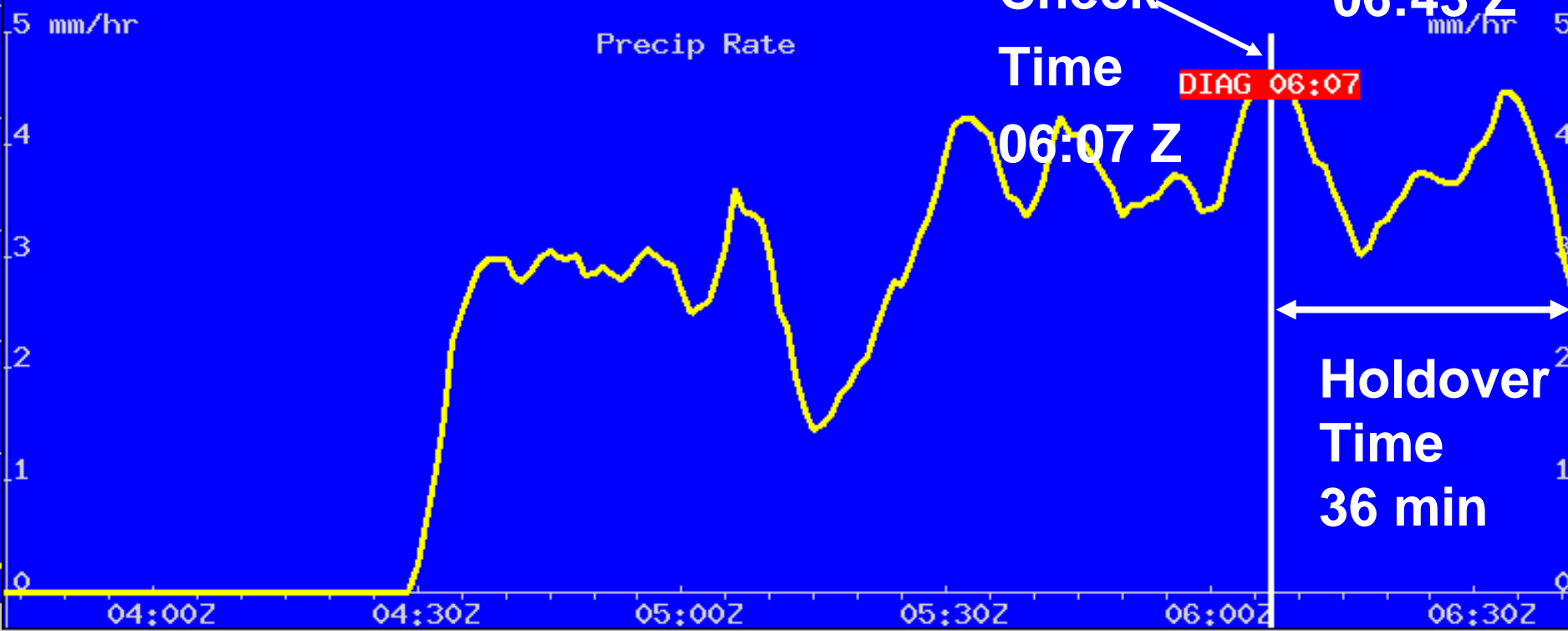
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DIAG	06:43	36.8	36.8	100	22	10	2.1	MOD	Present Time DOWN 06:43 Z
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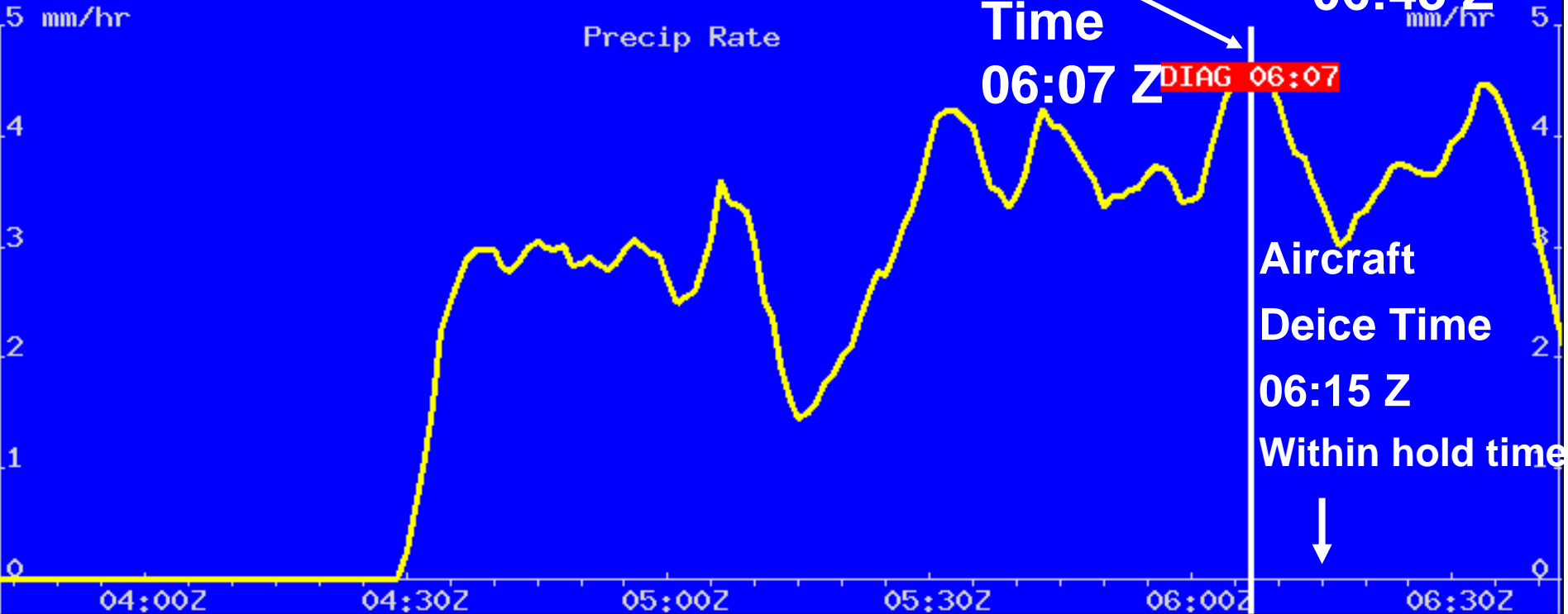
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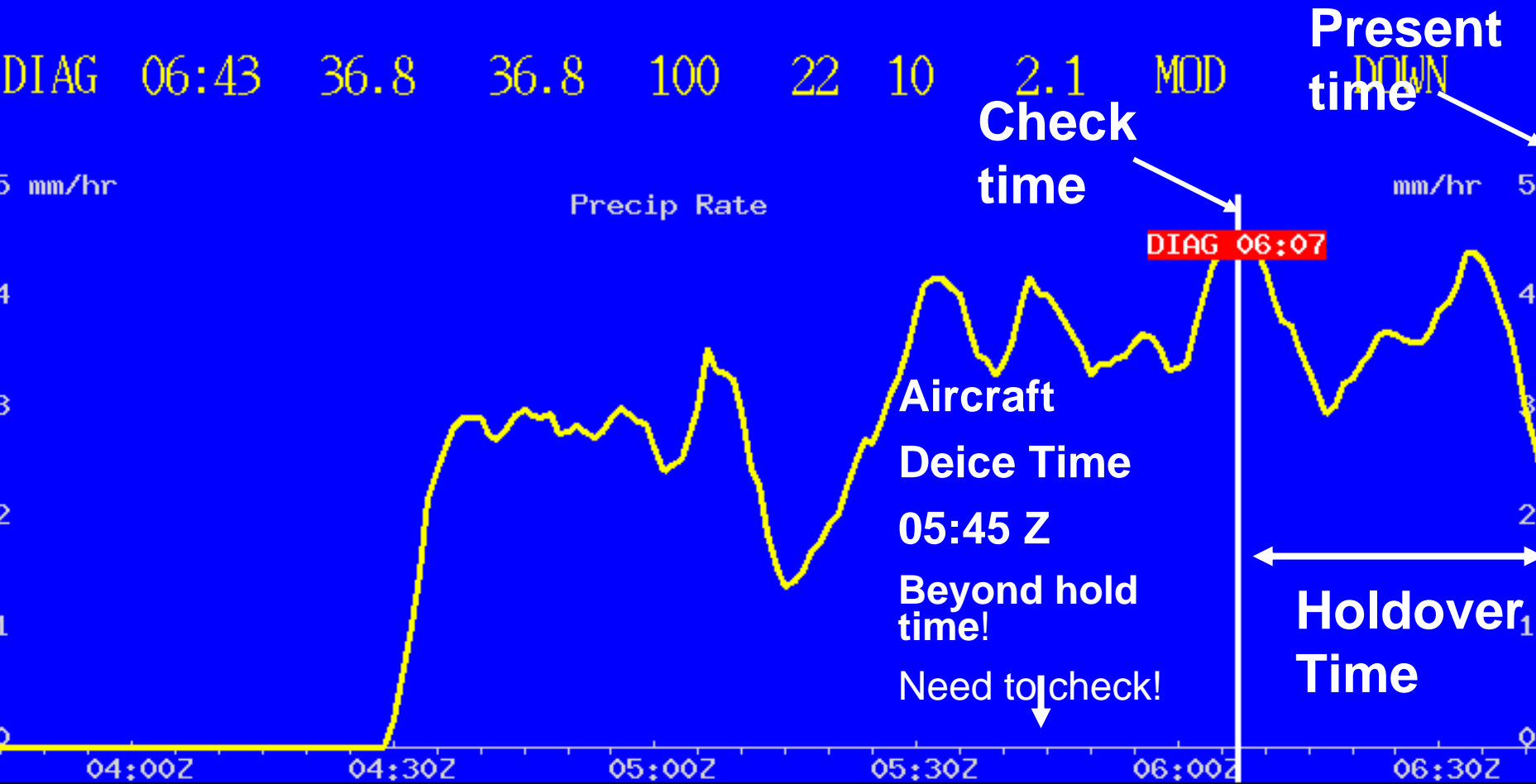


Precip Rate Accum Temp Humid Wind Spd Dir

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Benefits of Checktime



1. Allowed United deicing staff to quickly determine when to transition from a one-step deicing procedure (Type I only) to a two-step procedure (Type I followed by Type IV) based on increasing snowfall rates and consequently decreasing hold times.
2. Allowed United deicing staff to monitor the hold time status of all deiced aircraft prior to takeoff.
3. Provided ability to determine real-time precipitation rate at night.



4. Ability to monitor the local weather conditions close to the deicing pad, which can in many cases be significantly different than the ASOS station weather reported on METARs, ATIS, and FAA Control tower.