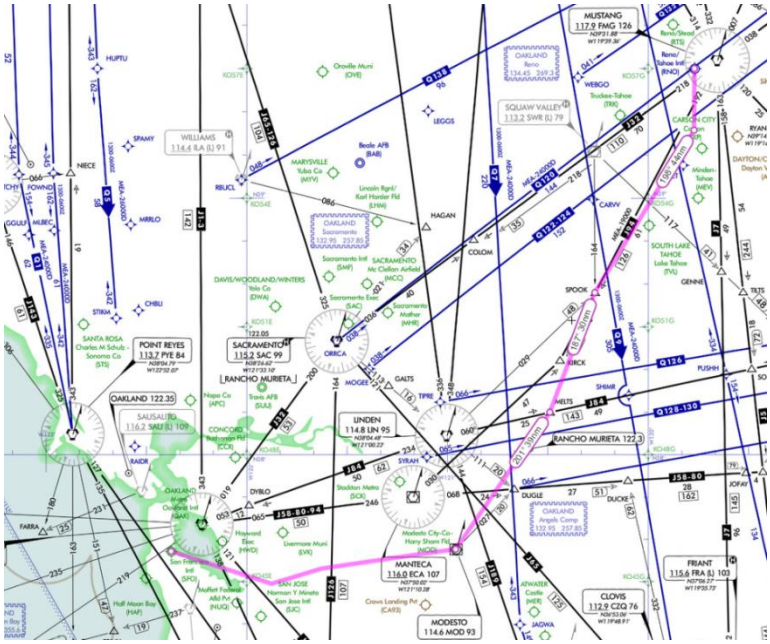
A Guide to FSCaptain Dispatch Releases

In the real world, the Dispatch Release is a vital (and legal!) document which each Captain must fully agree to and understand in order to be properly prepared to execute their flight. The ACME Dispatch Release used by FSCaptain is the same – it contains relevant data to guide Captains to make safe decisions on every flight. The data that's provided is split into several sections, of which some may not appear on all flights:

- General Information
- Fuel & Weights
- NOTAMS
- Weather – METAR, Winds, TAF
- Flight Plan (Routing)
- Load Manifest / Load Plan
- Remarks
- Flight Risks
- Runway Data

What follows is a typical three-page preliminary ACME Dispatch Release for a short passenger charter flight from KRNO (Reno, Nevada) to KSFO (San Francisco, California). It's booked in a CRJ-700 and has a Block Time scheduled for 54 minutes. This flight will have a (local) VIP aboard, so it will enjoy Priority arrival status. Because this flight is conducted exclusively inside the United States, the airline uses *feet*, *pounds* and *knots* for all values.



Since this flight will occur within a flight simulator, fuel burn rates are not those of real-world aircraft!

The flight plan takes us south/southwestward from Reno and then west to an approach to SF that for the majority of times would see a landing on one of the "28s" (the wind-favored 28L & 28R runways). The weather is pleasant and favorable, and there are no extra events to make this an unusual flight.

This flight is under the command of Captain Jeffrey T Spaulding – an ATP holder of many years, and an intrepid explorer to boot. After you've familiarized yourself with the flight's details, we'll look at each section in detail. (The sections are colored here for distinction.) Captain Spaulding has promised to share *his analysis* after our tour.

```
        RITTENHOUSE AIRLINES        DISPATCH RELEASE          FSCAPTAIN 1.7.2

FLIGHT 9648 KRNO (RNO) -- KSFO (SFO) -- ALT KSCK (SCK)   03-APR-16 18:31Z

AIRCRAFT (TBA)           OUT: _______             OFF: _______
TYPE     CRJ7            ON:  _______             IN:  _______

CREW INFORMATION:
DISP: H H TABBIDY        / _________________________________ (SIGNED)
PIC : GEOFFREY SPAULDING / _________________________________ (SIGNED)
```

```
FUEL CALCULATION               WEIGHT/FUEL BREAKDOWN
MIN         0LB                          ZFW  56695LB
TAXI      440LB     28MIN            T/O FOB  11080LB (MAX: 19590LB)
KSFO     3062LB     26MIN         PLANNED TOW  67775LB (MAX: 75000LB)
KSCK      812LB      7MIN       ENROUTE BURN   3062LB (Burn 775LB for MLW)
RSV      5220LB     45MIN         PLANNED LDW  64713LB (MAX: 67000LB)
HOLD     1740LB     15MIN    DESTINATION FOB   7798LB
PIC-A      26LB               ALTERNATE FOB   6986LB
************************
TOTAL   11300LB    121MIN
```

```
NOTAMs:
KRNO PIREPS OF INCREASED BIRD ACTVITY NEAR APT.
KSFO POSSIBLE SIMULTANEOUS CLOSE PARALLEL OPERATIONS ON RWYS 28L/R.
```

```
WEATHER INFORMATION:
* METARs
KRNO 031755Z VRB03KT 10SM FEW080 FEW200 SCT250 16/01 A3018 RMK AO2
     SLP185 T01610006 10161 20067 58002 $
KSFO 031756Z 05004KT 10SM FEW013 14/10 A3014 RMK AO2 SLP205 T01390100
     10144 20106 51003
KSCK 031755Z 29004KT 10SM CLR 18/11 A3009 RMK AO2 SLP189 T01830106
     10183 20106 50002

* Weather Aloft
       FT   3000   06000   09000   12000   18000   24000   30000   34000   39000
   ID  ---- ---- ------- ------- ------- ------- ------- ------- ------- -------
 KRNO: KRNO 1804 1804+14 1906+09 2016-03 2210-16 2420-28 2522-44 2626-55 2529-62
WAGGE: KCXP 1804 1804+14 1906+09 2015-03 2311-16 2420-28 2523-44 2626-55 2528-62
SPOOK: KTVL 1805 1805+14 1907+09 2016-03 2210-16 2419-28 2521-44 2625-55 2529-63
MELTS: KPVF 1905 1707+13 1808+08 1913-02 2215-16 2319-28 2320-44 2422-54 2425-63
  MOD: KMOD 2204 1808+12 1810+09 1811-02 2116-16 2219-28 2118-44 2217-54 2321-63
 KSFO: KSFO 2505 1811+11 1813+08 2011-02 2015-16 2019-28 2018-44 2013-54 2222-63
 KSCK: KSCK 2305 1810+12 1812+08 1911-02 2115-16 2119-28 2117-44 2114-54 2221-63

* TAFs
KSFO 031739Z 0318/0424 VRB03KT P6SM FEW012 SCT014 SCT016 FM032000
     28017KT P6SM FEW015 SCT200 FM040400 28015KT P6SM BKN015 FM041000
     28007KT P6SM OVC012 FM041800 VRB05KT P6SM SCT012 FM042000 28017KT
     P6SM BKN200
KSCK 031733Z 0318/0418 33005KT P6SM SKC FM032100 28010KT P6SM SCT250
```

FLIGHT PLAN: (CRUISE ALT: 20000FT)

VIA	POS	HDG	ALT	DIST	TIME	BLOCK	FUEL	WIND DIR	SPD	ADJ
	KRNO	000	4414FT	0	0:00	0:54	11300LB	4 180	0	0
	WAGGE	180	9454FT	14	0:16	0:38	10708LB	6 190	190	-4
	SPOOK	211	FL200	44	0:06	0:32	9705LB	10 220	300	-7
	MELTS	200	FL200	29	0:03	0:29	9257LB	15 220	450	-12
	MOD	214	FL200	39	0:04	0:25	8654LB	16 210	450	-15
	KSFO	270	12FT	67	0:25	0:00	7798LB	5 250	140	-8
(ALT)	KSCK	072	27FT	56	0:07		6986LB	4 290	250	4

193 NM TOTAL DISTANCE

* ATS Routing
KRNO WAGGE SPOOK MELTS MOD KSFO KSCK

LOAD MANIFEST:

1)	65 PAX	Passengers	11050LB
2)	1 Lot	Baggage	1975LB
3)	1 VIP	Casino Comic	170LB
			********
		TOTAL PAYLOAD	13195LB

* CRJ7 Load Plan

STN	TYPE	UNITS	WEIGHT	DESCRIPTION
001	J	6/Seats	1020LB	Business Class
002	W	14/Seats	2380LB	Comfort Economy
003	Y	46/Seats	7820LB	Coach
004	G	17/General	850LB	Forward Cargo
005	G	2/General	1125LB	Aft Cargo

* Load Summary

J	PAX/J	6 1020LB
W	PAX/W	14 2380LB
Y	PAX/Y	46 7820LB
G	CARGO	19 1975LB

REMARKS:
- PAX FLIGHT WITH SNACK SERVICE.
- AVERAGE SNACK SERVICE EST AT 13.0 MINUTES.
- ON ARRIVAL AT KSFO EXPECT TAXI TO GATE 141.
- NOTE TRANSITION ALTITUDES KRNO=18000 KSFO=18000 KSCK=18000.
- SPECIAL FLAG(S) FOR THIS FLIGHT: PRIORITY.
- ARRIVAL WINDOW 5 MINS LATE.
- EARLY ARRIVAL CLEARANCE GRANTED DUE TO PRIORITY STATUS.
- MINIMUM SAFE DISTANCE DEPARTING KRNO=2400FT.
- MINIMUM SAFE DISTANCE ARRIVING KSFO=1400FT.
- MINIMUM SAFE DISTANCE ARRIVING KSCK=1400FT.
- PERFORMANCE DATA REQUIRES TOC WITHIN 12 MINS AFTER TAKEOFF.
- FOR THIS FLIGHT, COMPANY POLICY REQUIRES LANDING LIGHTS REMAIN ON WHILE BENEATH 10000FT, AND AT PIC'S DISCRETION WHILE ABOVE.
- MLW (67000LB) REQUIRES NO MORE THAN 10305LB FUEL ONBOARD.

FLIGHT RISKS OF NOTE:
- KRNO IS A HIGH ELEVATION AIRPORT.
- PRELIMINARY ESTIMATED TAKEOFF ROLL (DRY RUNWAY - NO WIND): 5273FT.
* CHECK TAKEOFF PERFORMANCE AGAINST ALL OPERATIONAL RUNWAYS
  AND CURRENT CONDITIONS.

RUNWAY DATA:

KRNO

ID	Hdg	Length	(Offset)	Width	ILS	HW/CW	Flags
7	74°	6093FT	0FT	150FT			
16L	164°	9006FT	0FT	150FT			
16R	164°	11008FT	0FT	150FT	110.90 G D		
25	254°	6093FT	0FT	150FT			
34L	344°	11008FT	990FT	150FT			
34R	344°	9006FT	0FT	150FT			

FAVORABLE RUNWAYS: 16R 16L

KSFO

ID	Hdg	Length	(Offset)	Width	ILS	HW/CW	Flags
1L	12°	7506FT	0FT	200FT		-03-02	CL
1R	12°	8654FT	0FT	200FT		-03-02	CL
10L	102°	11861FT	0FT	200FT		-02+03	
10R	102°	10594FT	0FT	200FT		-02+03	
19L	192°	8654FT	0FT	200FT	108.90 G D	+03+02	
19R	192°	7506FT	0FT	200FT		+03+02	
28L	282°	10594FT	0FT	200FT	109.55 G D	+02-03	
28R	282°	11861FT	0FT	200FT	111.70 G D	+02-03	

FAVORABLE RUNWAYS: 28R 28L

KSCK

ID	Hdg	Length	(Offset)	Width	ILS	HW/CW	Flags
11L	112°	10647FT	0FT	150FT		+04-00	
11R	112°	4457FT	0FT	75FT		+04-00	
29L	292°	4457FT	0FT	75FT		-04+00	
29R	292°	10647FT	1000FT	150FT	109.10 G	-04+00	

FAVORABLE RUNWAY: 29R

Section 1 – General Information

```
        RITTENHOUSE AIRLINES        DISPATCH RELEASE          FSCAPTAIN 1.7.2

FLIGHT 9648 KRNO (RNO) -- KSFO (SFO) -- ALT KSCK (SCK)   03-APR-16 18:31Z

AIRCRAFT (TBA)           OUT: ________             OFF: ________
TYPE     CRJ7            ON:  ________             IN:  ________

CREW INFORMATION:
DISP: H H TABBIDY        / ___________________________ (SIGNED)
PIC : GEOFFREY SPAULDING / ___________________________ (SIGNED)
```

This is the easy part – this section begins by listing your airline and the version of FSCaptain you're using along with your flight details – the flight number and the departure, destination and alternate airports. Both ICAO and IATA airport IDs are used (if available).

Next the scheduled date and time of departure and arrival would be listed – however since this is a charter flight, the date and time of dispatch is noted.

The aircraft's type and tail number come next. Since this flight has not started, the actual aircraft has not been selected, and so the registration is noted as "TBA" – To Be Announced.

Next is space to note the four OOOI events (Out of the gate, Off the runway, On the runway, In to the gate). If you choose to print your Dispatch Release, you may enter the times as each event occurs. However after the flight finishes, you can look for a special "IN" version of the Dispatch release to see that the ACME system will have noted those times for you.

Finally there is room for both the Dispatcher and the Pilot in Command to literally "sign off" on the contents of this Release. Physical signatures are not necessary when using the ACME system – electronic sign offs are used. Especially when the Captain is such an intrepid explorer….

Section 2 – Fuel and Weights

```
FUEL CALCULATION              WEIGHT/FUEL BREAKDOWN
MIN          0LB                        ZFW  56695LB
TAXI       440LB     28MIN           T/O FOB  11080LB (MAX: 19590LB)
KSFO      3062LB     26MIN        PLANNED TOW  67775LB (MAX: 75000LB)
KSCK       812LB      7MIN       ENROUTE BURN   3062LB (Burn 775LB for MLW)
RSV       5220LB     45MIN        PLANNED LDW  64713LB (MAX: 67000LB)
HOLD      1740LB     15MIN   DESTINATION FOB   7798LB
PIC-A       26LB               ALTERNATE FOB   6986LB
************************
TOTAL    11300LB    121MIN
```

This section demands the Captain's exact attention to detail. It's the balance of fuel and weight that is needed to have a safe flight while preparing for the unexpected. In short, you need to have enough fuel to get your flight to where it's going, to allow for a diversion to the *alternate* airport, to account for a short ATC holding (either in-air or on the ground), and to have a reserve to account for unexpected winds or further ATC demands. To look at this one way, one would think that everyone would want as much fuel as possible!

However aircraft manufacturers perform tests to arrive at Maximum Take Off Weight and Maximum Landing Weight values which Captains are required to adhere to for a "legal" flight in most countries. This is where the "balance" comes in….

The left side of this section includes the fuel amounts and their associated burn times at the listed airspeed. Times are included to give a sense of knowing what you have in respect to where you're going. After all, knowing the weight or volume of fuel is quite different than *knowing how long it will allow you to fly*.

MIN is the aircraft's minimum fuel requirements – just be aware this is not the same as declaring "minimum fuel" in flight. Some aircraft have a requirement to always keep a small amount of fuel in their tanks and this would be entered in the aircraft's configuration data section of the Administrator. It's an unchanging value – every flight would contain the same amount.

TAXI is the amount of fuel needed for all taxi operations, using the sizes of the departure and destination airports (as well as aircraft fuel flow) for calculation.

Next we come to the enroute values to go to the destination (either directly, or with a flight plan) and then directly to the alternate airport.

PIC-A is the *Pilot in Command's [Fuel] Adjustment*. The Captain is in full control of the flight, and if the Captain wants to fly with more or less fuel than the company's dispatch office recommends, this is where the difference is recorded. It seems that our intrepid Captain Spaulding has chosen to round up the fuel to the next hundred pounds. He must have good reason….

Finally, amounts and times are tallied and displayed. Recall this flight is set for 54 minutes from OUT to IN, and yet there's two hours' worth of flying time in terms of fuel onboard.

```
FUEL CALCULATION                WEIGHT/FUEL BREAKDOWN
MIN          0LB                          ZFW  56695LB
TAXI       440LB     28MIN           T/O FOB  11080LB (MAX: 19590LB)
KSFO      3062LB     26MIN         PLANNED TOW  67775LB (MAX: 75000LB)
KSCK       812LB      7MIN        ENROUTE BURN   3062LB (Burn 775LB for MLW)
RSV       5220LB     45MIN         PLANNED LDW  64713LB (MAX: 67000LB)
HOLD      1740LB     15MIN    DESTINATION FOB   7798LB
PIC-A       26LB               ALTERNATE FOB   6986LB
************************
TOTAL    11300LB    121MIN
```

The right side of this section holds the Weight & Fuel breakdown values – this includes various weights, from the Zero Fuel Weight of the aircraft (empty weight plus load weight), the Take Off Fuel On Board (which is not the same as the Total Fuel at startup – half the Taxi fuel is allocated here), the planned enroute burn, the planned Landing Weight, and the Fuel On Board estimates for the destination and the alternate.

If your aircraft has defined MTOW and MLW weights, you will see them (together with the maximum fuel load) aside the flight values.

If your aircraft will take off at a weight greater than its MLW you will see the amount of fuel that you need to burn off in order land at or below MLW. We can calculate this burn amount ourselves by subtracting the ZFW value from the MLW value to get 10305 lbs. Factoring that against the total fuel *at takeoff*, we can see that 775lbs of fuel will need to burn off before landing to avoid a possible Class A inspection of the landing gear.

This is important to know if you have an emergency situation soon after takeoff! You will have to literally weigh the option of landing heavy versus burning off fuel flying holding patterns in a safe area. So in case of a bird strike with no apparent system failure, you can ask ATC for a long holding pattern and land below MLW at your departure airport. However if it's smoke in the cabin or if it's a passenger medical emergency… you should strongly consider landing ASAP and allow the overweight to go to *the hindmost*!

Returning to that extra 26lbs of fuel on our flight – that's well less than one minute at a normal burn rate in a CRJ-700, but even when the intrepid Captain Spaulding sees this need to shed 775lbs of fuel before a normal landing, we think he'll likely drop the extra weight… and could even consider shedding a few hundred more pounds of fuel if weather conditions enroute might call for it.

We'll mention again that all of the numbers used in this section correspond to previous flights flown by many Captains in the CRJ-700 which ships with the (boxed) FSX. If your style of flying this aircraft differs – giving you radically different amounts of fuel to make such a flight – then trust your own numbers.

Section 3 – NOTAMS

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NOTAMs:
KRNO PIREPS OF INCREASED BIRD ACTVITY NEAR APT.
KSFO POSSIBLE SIMULTANEOUS CLOSE PARALLEL OPERATIONS ON RWYS 28L/R.
```

In the real world, a NOTAM (Notice To AirMen) represents a warning (or notice) of a change in "normal" condition. Perhaps a runway is out of service (OOS), undergoing repairs. Or perhaps it's a section of taxiway, or a navigational aid that's OOS. It could be a mention of a new & temporary obstruction (a crane or tower). Or it could be an amendment to a SID or STAR that only applies to a certain type of aircraft.

In any event, real world NOTAMS have little or no impact on our Flight Simulators. For example, if your favorite airport has lost the DME transmitter on an ILS in real life, that's not likely to be reflected in your sim.

So FSCaptain allows each Captain to specify their own NOTAM for their sceneries, and to have those NOTAMS be mentioned in a Dispatch Release for Departure, Approach or Arrival.

The method to do such is simple – open the \FSCaptain\Config\notams.txt and follow this guide to add NOTAMS that reflect your simulator and your scenery:

```
; FSCaptain NOTAMS
; The following items will be included on your Dispatch Release (and possibly your ACARS)
; for any flights to or from the designated airport
; Field meanings are:
; 1. ICAO ID
; 2. DEPT=Departure, APCH=Approach (in air), ARRV=Arrival (on ground)
; 3. I=Information (Dispatch Release only), W=Warning (Dispatch Release & ACARS)
; 4. O=Obstacle/Object, N=Navaid
; 5. NOTAM text
;
KDAN,ARRV,W,O,TWY NEAR RWY 02 BLDG (ILS) POSS TAXI OBST FOR LARGE ACFT.
KACV,DEPT,I,O,COLD TEMPERATURE RESTRICTED AIRPORT. ALTITUDE CORRECTION REQ AT OR BELOW -5C/23F.
KACV,APCH,I,O,COLD TEMPERATURE RESTRICTED AIRPORT. ALTITUDE CORRECTION REQ AT OR BELOW -5C/23F.
KSFO,APCH,I,O,POSSIBLE SIMULTANEOUS CLOSE PARALLEL OPERATIONS ON RWYS 28L/R.
```

There are some "built-in" NOTAMs that can appear when certain conditions would apply. Currently, "INCREASED BIRD ACTIVITY" can be noted before departure and on approach. Future conditions are expected to include "EXPECT DEPARTURE DELAY," "EXPECT ARRIVAL DELAY," and even "PIREPS OF LASER ACTIVITY".

Such NOTAMS are not *declarations* of such occurrences, but only to heighten your awareness of such conditions. A BIRD ACTIVITY announcement does not mean you will suffer a bird strike… only the conditions are favorable for such. Likewise, an absence of such an announcement *does not mean you will not have* to worry about a bird strike. Just as in real life, accidents can occur. To those who are prepared, better chances of a positive outcome *can likewise occur*.

Section 4 – Weather

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WEATHER INFORMATION:
* METARs
KRNO 031755Z VRB03KT 10SM FEW080 FEW200 SCT250 16/01 A3018 RMK AO2
     SLP185 T01610006 10161 20067 58002 $
KSFO 031756Z 05004KT 10SM FEW013 14/10 A3014 RMK AO2 SLP205 T01390100
     10144 20106 51003
KSCK 031755Z 29004KT 10SM CLR 18/11 A3009 RMK AO2 SLP189 T01830106
     10183 20106 50002

* Weather Aloft
       FT   3000   06000   09000   12000   18000   24000   30000   34000   39000
   ID  ---- ---- ------- ------- ------- ------- ------- ------- ------- -------
 KRNO: KRNO 1804 1804+14 1906+09 2016-03 2210-16 2420-28 2522-44 2626-55 2529-62
WAGGE: KCXP 1804 1804+14 1906+09 2015-03 2311-16 2420-28 2523-44 2626-55 2528-62
SPOOK: KTVL 1805 1805+14 1907+09 2016-03 2210-16 2419-28 2521-44 2625-55 2529-63
MELTS: KPVF 1905 1707+13 1808+08 1913-02 2215-16 2319-28 2320-44 2422-54 2425-63
  MOD: KMOD 2204 1808+12 1810+09 1811-02 2116-16 2219-28 2118-44 2217-54 2321-63
 KSFO: KSFO 2505 1811+11 1813+08 2011-02 2015-16 2019-28 2018-44 2013-54 2222-63
 KSCK: KSCK 2305 1810+12 1812+08 1911-02 2115-16 2119-28 2117-44 2114-54 2221-63

* TAFs
KSFO 031739Z 0318/0424 VRB03KT P6SM FEW012 SCT014 SCT016 FM032000
     28017KT P6SM FEW015 SCT200 FM040400 28015KT P6SM BKN015 FM041000
     28007KT P6SM OVC012 FM041800 VRB05KT P6SM SCT012 FM042000 28017KT
     P6SM BKN200
KSCK 031733Z 0318/0418 33005KT P6SM SKC FM032100 28010KT P6SM SCT250
```

Weather information is vital to planning a successful flight. Moving through "an ocean of air" requires up-to-the-minute knowledge of conditions. Your Dispatch Release has weather information in three types – METARS (current conditions), TAFS (forecasted conditions) and "Winds Aloft."

METAR and TAF data can be understood through many online sources. If you are curious as to what the codes mean, this two-page FAA document is a good starting point:

http://www.weather.gov/media/okx/Aviation/TAF_Card.pdf

The Weather Aloft section is populated only if you have an external weather engine which stores such data on your PC. See the *FSCaptain User Guide – Weather and Hazard Options* section for more details.

The tabular data presented here is easy to decipher – from left to right you see a list of all waypoints in your flight plan, the waypoint's associated weather station, and the wind direction / wind speed / air temperature for various levels in the atmosphere. For example the waypoint SPOOK gets its upper level data from KTVL (Lake Tahoe, California) and from 18000ft – 23999ft, the wind is coming from 220 degrees (position values are all rounded to the nearest 10 degrees, so the last digit is dropped) at 10kts with an air temperature of minus 16C. Very light winds!

Wind speeds above 99kts would be represented by adding 50 to the wind direction and using the latter two digits of the wind speed. So if the wind speed at SPOOK was 110kts, the encoding would be "7210-16".

Subtracting 50 from “72” would give us “22” (representing 220 degrees) and adding 100 to “10” gives us “110” – 110kts.

Because our weather today is excellent for flying, there’s something that’s not present in the weather section of our Dispatch Release. It’s an extra notation of weather conditions that can be derived from the departure and destination METARS. These would be listed directly after the TAF section and are labelled “Significant Weather for this Flight”.

Sample items include:

```
YSCB - CAUTION active frost formation on surfaces.
EFKE - DANGER Probable severe ground icing on surface.
EDDM - Snow conditions favor surface ice formation.
KRWL - Gusts of up to 28 knots reported.
LEML - DANGER Lightning activity in airport vicinity.
FALA - DANGER Thunderstorm activity in airport vicinity.
UUDD - CAUTION Areas of convection possible near airport.
KTVL - CAUTION Nearby reference point obscured.
EGGD - Low visibility reported.  Check RVR before takeoff.
KFAT - CAUTION Nearby mountains reported obscured.
KHAF - Ceiling reported below minimums.
KTLH - Low visibility reported and RVR is INOP. Exercise extreme caution
       on landing.
LBSF - Local Runways/Taxiways reported slick.
KDFW - DANGER Wind Shear reported.
HECA - Turbulence reported locally.
SEMC - DANGER Volcanic ash in airport vicinity.
```

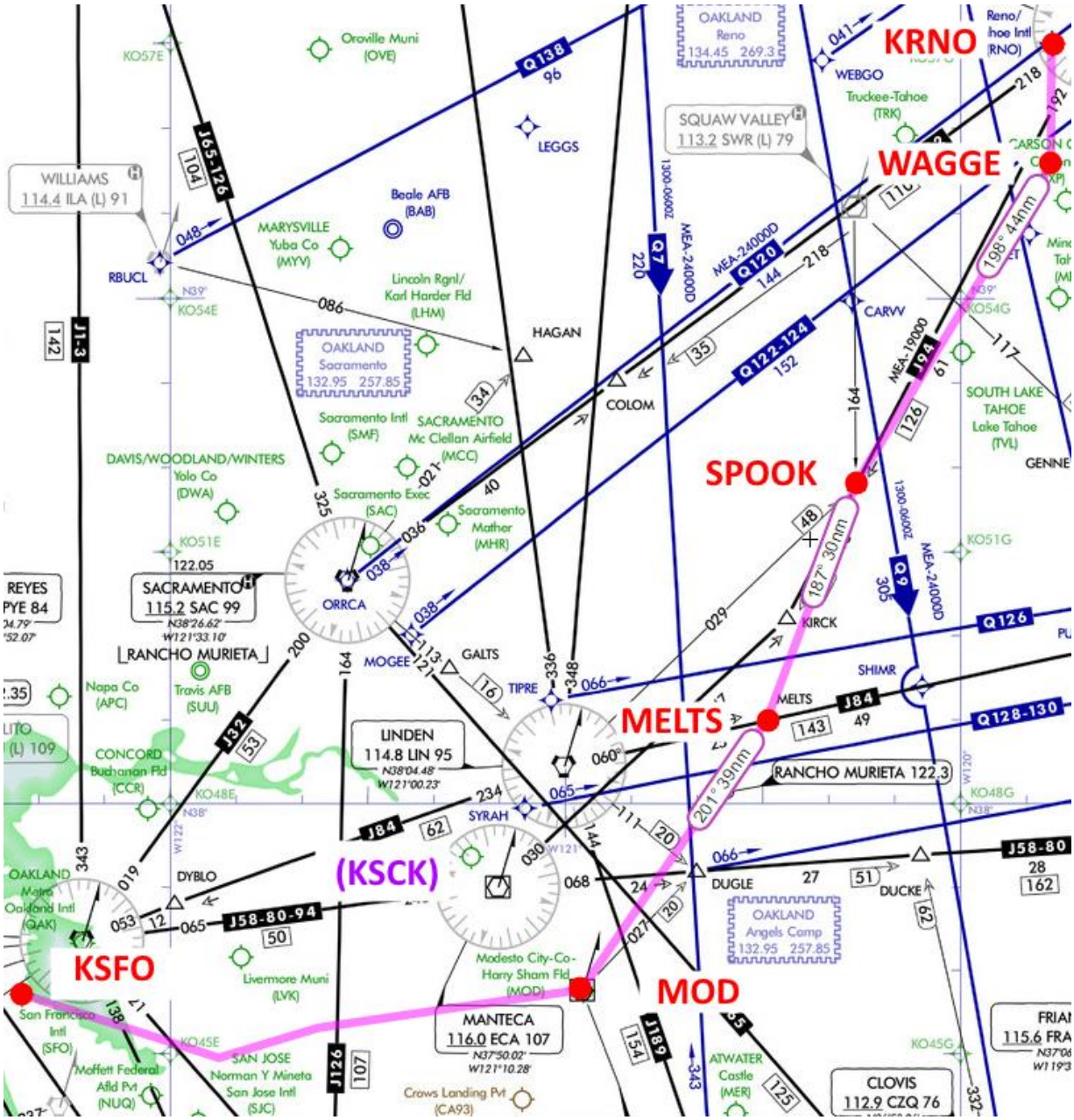
All of these are dangerous environmental conditions and should be treated with care!

Gusty winds will also be noted in the Flight Risks section of the Dispatch Release as they have direct impact on aircraft performance parameters in regards to takeoff and landing.

Section 5 – Flight Plan

```
FLIGHT PLAN:          (CRUISE ALT: 20000FT)
VIA     POS       HDG    ALT    DIST   TIME BLOCK   FUEL     WIND DIR SPD ADJ
-------------------------------------------------------------------------------
        KRNO      000   4414FT     0   0:00  0:54   11300LB     4 180   0   0
        WAGGE     180   9454FT    14   0:16  0:38   10708LB     6 190 190  -4
        SPOOK     211   FL200     44   0:06  0:32    9705LB    10 220 300  -7
        MELTS     200   FL200     29   0:03  0:29    9257LB    15 220 450 -12
        MOD       214   FL200     39   0:04  0:25    8654LB    16 210 450 -15
        KSFO      270   12FT      67   0:25  0:00    7798LB     5 250 140  -8
(ALT)   KSCK      072   27FT      56   0:07          6986LB     4 290 250   4
-------------------------------------------------------------------------------
                                193 NM TOTAL DISTANCE

* ATS Routing
KRNO WAGGE SPOOK MELTS MOD KSFO KSCK
```



The preceding page lists the flight plan data, the ATS routing string, and a graphic showing the route from KRNO (in the upper right of the graphic) to KSFO (in the lower left).

If you don't use a detailed .PLN, you are considered to have a "direct" flight plan. While that will work, we encourage all Captains to use flight-planning software and generate a valid plan for each flight. Combined with an external weather engine's data, doing so will improve your fuel and block time estimates immensely.

The flight plan data is presented in a tabular format – each row represents a waypoint (with an alternate airport added at the very end), and the columns from left to right display these values:

VIA – The ID of any associated Victor or Jet airway. (For this flight there are none, hence all are blank.)

POS – The waypoint's or airport's ID.

HDG – The magnetic heading to this waypoint.

ALT – The estimated aircraft altitude at this waypoint. (This is only governed by the aircraft's climb rate and speeds, with no consideration to SID or STAR restrictions that might be given by ATC.)

DIST – The distance in NM to this waypoint.

TIME – The time in hours/minutes to traverse from the preceding waypoint to this waypoint.

BLOCK – The Block Time Remaining at this waypoint until the Estimated Time IN.

FUEL – The estimated fuel remaining at this waypoint.

WIND – The estimated wind speed at this waypoint.

DIR – The estimated wind direction at this waypoint. (Rounded to the nearest 10 degrees.)

SPD – The estimated aircraft speed for the segment ending at this waypoint. (This speed is not adjusted for wind, and is limited to a max of 250kts when below 10000ft.)

ADJ – The estimated adjustment to aircraft speed at this waypoint, using wind.

So for the flight segment ending at SPOOK, we see that we should have travelled 44nm in 6 minutes, with 32 minutes remaining until we go IN. We should be at our cruise altitude of FL200 with 9705lbs of fuel (recalling our MLW fuel level must be below 10305lbs, so we could land immediately if called upon to). Cruise speed is 450kts, but our average aircraft speed should be 300kts (we were climbing for a portion of this segment… and indeed started the segment below 10000ft, so under ATC limits too). There is a light headwind, suppressing our actual airspeed by 7kts. It's clear that we're expecting a light headwind for all phases of our flight to SFO.

The ATS Routing string can be used to easily port our route data to other applications – which is how the graphic was created. Just copy all elements except the alternate airport (the last item) and paste them into the other application's route entry field.

The service when generated this graphic has applied the SFO weather and is aware of a particular STAR that would be in play given the final waypoint – MOD. So the final "leg" of our flight is showing the MOD5 STAR and we can store that in the back of our thoughts to plan for an actual extra minute or so that isn't included in our Block Time Estimate.

Section 6 – Load Manifest / Load Plan

```
LOAD MANIFEST:
 1)  65 PAX      Passengers                                    11050LB
 2)   1 Lot      Baggage                                        1975LB
 3)   1 VIP      Casino Comic                                    170LB
                                                              ********
                                                TOTAL PAYLOAD  13195LB

* CRJ7 Load Plan
STN TYPE  UNITS     WEIGHT    DESCRIPTION
-------------------------------------------------------------
001  J    6/Seats   1020LB    Business Class
002  W   14/Seats   2380LB    Comfort Economy
003  Y   46/Seats   7820LB    Coach
004  G   17/General 850LB     Forward Cargo
005  G    2/General 1125LB    Aft Cargo

* Load Summary
J PAX/J      6 1020LB
W PAX/W     14 2380LB
Y PAX/Y     46 7820LB
G CARGO     19 1975LB
```

While it's not critical for each Captain to know all details of the payload on each flight, it does make good sense for the Captain to have an awareness of them.

Here we see that on our flight today, we're carrying passengers and their bags. We're well weighted down, so our Flight Operations office has chosen to not saddle us down with extra cargo – although there is room for more such.

Our aircraft has a detailed load map, so not only do we have a simple Manifest, there is a Load Plan & Summary so we can see how our load will be distributed. Our aircraft has three seating sections – Business, Comfort and Coach – so our passengers shouldn't be packed in like sardines.

If we have the Economic Mode active, we would generate more revenue due to the "J" and "W" class tickets.

One thing that stands out is that our flight will be host to a local VIP – a comic from one of Reno's casinos. This has been noted by Dispatch, and in the next segment – Remarks – you will see that our flight has been tasked with a Priority status. So there will be no early arrival penalties in our efforts to engender a positive response from our well-known passenger. Let's hope that Captain Spaulding has a smooth flight and doesn't arrive late!

Section 7 – Remarks

This section of the Dispatch Release points out some of the many factors that Captain Spaulding will need to account for in our flight. Think of it as a list of the *specific rules* that will govern the flight – and that these rules can change from flight-to-flight.

```
REMARKS:
- PAX FLIGHT WITH SNACK SERVICE.
- AVERAGE SNACK SERVICE EST AT 13.0 MINUTES.
```

First, it's a passenger flight with a requirement for at least one snack service to be performed. Considering our compliment of flight attendants against the number of passengers, an average snack service will take 13 minutes to complete.

Captain Spaulding has made this flight many times and he knows more often than not ATC will initiate approach descent to occur at or before the MOD waypoint – so service should be completed before then as the attendants will begin to clear the cabin. Looking backward in the flight plan, we see there's 13 minutes flight time from WAGGE to SPOOK (6 minutes) to MELTS (3) to MOD (4). So if Captain Spaulding plays his cards right, he should call for service to begin just before reaching WAGGE.

```
- ON ARRIVAL AT KSFO EXPECT TAXI TO GATE 141.
```

This is where our flight will go IN. Updated airport charts and ATC guidance should allow for an easy taxi-in.

```
- NOTE TRANSITION ALTITUDES KRNO=18000 KSFO=18000 KSCK=18000.
```

This flight is conducted solely in the United States, so each airport has a Transition Altitude of 18000ft. The aircraft's barometric altimeter on this flight should be set to standard pressure just before Top of Climb.

```
- SPECIAL FLAG(S) FOR THIS FLIGHT: PRIORITY.
- ARRIVAL WINDOW 5 MINS LATE.
- EARLY ARRIVAL CLEARANCE GRANTED DUE TO PRIORITY STATUS.
```

Here is where our flight's status is noted as Priority… and we see that we cannot be late by more than 5 minutes or risk complaints from our passengers.

```
- MINIMUM SAFE DISTANCE DEPARTING KRNO=2400FT.
- MINIMUM SAFE DISTANCE ARRIVING KSFO=1400FT.
- MINIMUM SAFE DISTANCE ARRIVING KSCK=1400FT.
```

This flight will be conducted using Minimum Safe Distance rules, and here are the AGL values that will govern us at or near each of our airports. (The MSD value for the departure applies until descent has been initiated.)

Each of the airports are in a well populated area, so the “congested area” values of 1400ft are used, and since KRNO is in a mountainous area, an additional 1000ft is added as a buffer.

```
- PERFORMANCE DATA REQUIRES TOC WITHIN 12 MINS AFTER TAKEOFF.
```

This airline has defined Top Of Climb calls to be made using the aircraft’s listed climb performance values, and we see that Captain Spaulding will need to make the TOC call within just 12 minutes after takeoff or risk being penalized for violating company policy.

```
- FOR THIS FLIGHT, COMPANY POLICY REQUIRES LANDING LIGHTS REMAIN ON
  WHILE BENEATH 10000FT, AND AT PIC'S DISCRETION WHILE ABOVE.
```

Here it’s noted that landing lights are required to be on when below 10000ft for this flight, and at the Captain’s discretion when above. It is worth to note here that although the company’s Policy Altitude is 10000ft, flying into or out of an airport with an elevation less than 4000ft from the Policy Altitude will call for a different altitude to be used on such flights. Always check the Remarks section to see what is required on each flight.

```
- MLW (67000LB) REQUIRES NO MORE THAN 10305LB FUEL ONBOARD.
```

Our final remark for this flight is a reminder that a landing with more than 10305lbs of fuel will exceed the aircraft’s Maximum Landing Weight rating.

As noted earlier, these are the remarks which govern *only this flight*. Depending on certain factors on other flights, other remarks may come into play:

```
- FLIGHT CONDUCTED UNDER CODESHARING AGREEMENT AS 'ACME1234'.
- PAX FLIGHT WITH NO FLIGHT ATTENDENTS.
- PAX FLIGHT WITH OPTIONAL SERVICE.
- FLIGHT ALT OF 12000FT IS BELOW A/C'S SERVICE ALT OF 18000FT.
- FERRY FLIGHT W/O SCHEDULED PAX OR CARGO.
- ARRIVAL WINDOW 14 MINS EARLY TO 5 MINS LATE.
- PARKING AT EGJJ MAY BE DIFFICULT - AVAILABILITY UNCERTAIN.
- ON ARRIVAL AT E20 EXPECT WATER TAXI TO RAMP 1.
- ANCHOR, MOOR OR DOCK WHERE POSSIBLE.
- ON ARRIVAL AT EGBB SETDOWN AT ANY OPEN HELIPAD OR AT RAMP 20.
- CYYZ: 6 DEICING PADS ARE AVAILABLE.
  IF DEICING REMOTELY, PLAN BLOCK TIME AND FUEL ACCORDINGLY.
- LSZH: ON-STAND DEICING RESTRICTIONS APPLY FOR TURBOJET A/C.
  USE OF REMOTE DEICING BAYS IS REQUIRED WHEN IN SERVICE.
  IF DEICING REMOTELY, PLAN BLOCK TIME AND FUEL ACCORDINGLY.
- CYYJ: ALLOW TIME FOR CUSTOMS PROCESSING ON ARRIVAL.
        CUSTOMS CAN PROCESS 120 PAX & CREW AT MOST.
- COMPANY POLICY REQUIRES TOC WITHIN 30 MINS AFTER TAKEOFF.
- MANIFEST DATA NOT AVAILABLE.
- FLIGHT PLAN DATA NOT AVAILABLE.
- BLOCK TIME BASED ON ZERO WIND CALCULATION.
```

“Remarks” cover several predictable things which impact flights: the flight type – including a possible codeshare designation, required or optional PAX service, parking possibilities (for seaplanes, for other fixed wing aircraft, and for rotorcraft), the presence of (and possible requirement to use) off-stand deicing bays, whether or not it’s an international flight (including Souls On Board restrictions), the airline’s Top of Climb reporting requirements, and any missing inputs such as a flight plan or upper level weather data.

As mentioned earlier, having both a valid flight plan and current weather data before your flight will allow your airline’s dispatch office to generate accurate block time and fuel estimates suited to your style of flying!

Section 8 – Flight Risks

```
FLIGHT RISKS OF NOTE:
- KRNO IS A HIGH ELEVATION AIRPORT.
- PRELIMINARY ESTIMATED TAKEOFF ROLL (DRY RUNWAY - NO WIND): 5273FT.
* CHECK TAKEOFF PERFORMANCE AGAINST ALL OPERATIONAL RUNWAYS
  AND CURRENT CONDITIONS.
```

Flight Risks are those elements which can introduce uncertainty or in other words… risk… to a safe flight.

The only risk today is that KRNO is a "high elevation airport" so calculations which are usually based on ISO conditions including "sea level air pressure" must consider the wide variances involved. Normally for a CRJ-700 at MTOW on a dry runway with no wind, the takeoff roll is 5100ft.

The CRJ's MTOW is 7500lbs and our flight is only clocking in at 67775lbs, so the extra elevation greatly increases our takeoff roll! That's a clear risk for a Captain who chooses to ignore precautions.

Other types of flight risks that have been noted include (*but are not limited to*):

```
- FLIGHT WITH NO FIRST OFFICER. PIC IS STRONGLY ENCOURAGED TO ADOPT
  A 'SLOW FLOW' AND FOLLOW ALL CHECKLISTS WITH *EXTREME* DILIGENCE.
- THIS FLIGHT APPEARS TO HAVE LESS THAN 45 MINS OF RESERVE FUEL.
- FLIGHT ABOVE 10000FT IN UNPRESSURIZED A/C.
  ENSURE ALL PAX & CREW HAVE SUPPLIMENTAL OXYGEN.
- *WARNING* PLAN EXCEEDS MTOW BY 1400LBS.
- A/C REQUIRES 2300FT TAKEOFF RUNWAY (DRY - NO WIND).
  1661FT AVAILABLE AT EGEF.
- A/C REQUIRES 4600FT LANDING RUNWAY (STD / MLW).
  5004FT AVAILABLE AT KCEC.
- O88: AIRPORT IS UNCONTROLLED.
- KPSP REPORTS VERY HIGH TEMPS.
- KLAX BRAKING ACTION POOR. CHECK CONDITIONS BEFORE TAXI.
- DISPATCHED WITHOUT ALTERNATE.
- NZRO: REPORTING MODERATE GALE CONDITIONS.
- CYWH: REPORTING ROUGH WATER DUE TO WINDS.
- C39: REPORTING GLASSY WATER - EXERCISE CAUTION ON LANDING.
```

As the Pilot in Command of a flight, a Captain could order the aircraft to be under-fueled, to take passengers into conditions where hypoxia can occur, and even approve a flight where Maximum Take Off Weight is ignored. Flying into or out of uncontrolled airports is not inherently dangerous, but Captains must be aware of the risk that another pilot might not call out their position on the Common Traffic Advisory Frequency.

Runways that may be too short, no help in the cockpit, extremely high temperatures, no alternate for diversion, contaminated runways, strong or gusty winds – even the hidden risks of *calm winds when landing on water*… all of these are risks that Captains must always consider on every flight!

Section 9 – Runway Data

```
RUNWAY DATA:

KRNO

  ID   Hdg  Length (Offset)   Width  ILS         HW/CW    Flags
-----------------------------------------------------------------
   7   74°   6093FT     0FT   150FT
 16L  164°   9006FT     0FT   150FT
 16R  164°  11008FT     0FT   150FT  110.90 G D
  25  254°   6093FT     0FT   150FT
 34L  344°  11008FT   990FT   150FT
 34R  344°   9006FT     0FT   150FT

FAVORABLE RUNWAYS: 16R 16L


KSFO

  ID   Hdg  Length (Offset)   Width  ILS         HW/CW    Flags
-----------------------------------------------------------------
  1L   12°   7506FT     0FT   200FT              -03-02   CL
  1R   12°   8654FT     0FT   200FT              -03-02   CL
 10L  102°  11861FT     0FT   200FT              -02+03
 10R  102°  10594FT     0FT   200FT              -02+03
 19L  192°   8654FT     0FT   200FT  108.90 G D  +03+02
 19R  192°   7506FT     0FT   200FT              +03+02
 28L  282°  10594FT     0FT   200FT  109.55 G D  +02-03
 28R  282°  11861FT     0FT   200FT  111.70 G D  +02-03

FAVORABLE RUNWAYS: 28R 28L


KSCK

  ID   Hdg  Length (Offset)   Width  ILS         HW/CW    Flags
-----------------------------------------------------------------
 11L  112°  10647FT     0FT   150FT              +04-00
 11R  112°   4457FT     0FT    75FT              +04-00
 29L  292°   4457FT     0FT    75FT              -04+00
 29R  292°  10647FT  1000FT   150FT  109.10 G    -04+00

FAVORABLE RUNWAY: 29R
```

For Captains of fixed wing aircraft, you likely have details of your runways in other applications, but in order for you to properly interpret your Dispatch Release, those details are also included here.

The fields Runway ID, Hdg, Length, and Width are self-explanatory. As for the other fields:

(Offset) – The length of any displaced threshold (not used for landing, but could be used for takeoff).

ILS – If a runway has an ILS attached, the frequency and flags indicating a Glideslope and DME are included.

HW/CW – The headwind and crosswind components using the last reported METAR. If winds are nil or variable (as they are at KRNO here) then there is no component to be used.

Flags – Indicators if the runway is CL (Closed for Landing) or CT (Closed for Takeoff).

The factors used to denote “favorable runways” are the runway’s length, the current winds, and the presence of an ILS. Dispatch usually assigns a 4kt wind speed factor to runways with an ILS – this compliments the normal tendency for ATC to assign ILS runways. (Default ATC will allow up to 12kts of “tailwind speed” to use an ILS runway!)

Please note that because one or more runways have been declared as “favorable,” such will not influence any ATC call when it is time to take a runway. These are only added to your Dispatch Release as general guidance to supplement your route planning.

Future versions of FSCaptain will include runway lighting data, more ILS data, and published procedure data. (Eventually this section will expand into a full “Airport Data” section including the airport’s COM frequencies.)

Section 10 – Captain Spaulding's Analysis

As Captain Spaulding received his copy of the Dispatch Release, we asked him for his thoughts and he graciously allowed us to record and to transcribe them for study:

"Alright then, today we are on the Reno to SFO haul once again. I like the CRJ7s, they are very easy to handle.

"I see light winds all around, so I expect the calm wind runways to be in effect – the 16s at RNO and the 28s at SFO. Dispatch seems to agree – how thoughtful of them.

"Being at a high elevation, the air is thinner at RNO, but we should not have to worry about takeoff. Reno has been dry as a bone for several days, and we will have plenty of runway in front of us. A CRJ7 would not need the long runways, so we will be fine if given 16L for takeoff. Depending on the airport departure rate at SFO we might be given 28L or 28R. Love their parallel operations on the 28s; we are fully qualified to take them in a CRJ.

"The fuel calculations look fine *for my style of flying*. I even see where I rounded up the total amount – doing that is just a little joke that I enjoy. We seem laden with fuel for the takeoff roll, but even if we catch a turkey in one of the engines and the engine fails, we would only need to burn off less than 600 pounds of JET-A for a textbook single engine landing back at RNO. Although we would have only one engine burning fuel, that engine will be running at nearly full throttle and we should be below MLW after less than ten minutes of flight time. It will take that long for ATC to clear traffic for us, so I see no reason to change the fuel load. The bean counters would not agree, but I never liked beans anyway….

"The weather looks excellent; temperatures are very temperate, there are only a few clouds all around, and it looks dry for the takeoff and only slightly humid for arrival. No precip is reported or is in the TAF. The forecasts at the destination and alternate airports show light winds and great visibility. We should have very light headwinds all throughout our route. What a wonderful day for flying!

"It looks as if we have nearly a full load of passengers and the flight has been advertised as offering snacks, so the attendants will be busy. It is a short flight, so I will not let the ACME automatic system start service; I will do so myself when the time is right. I also see the dispatch office has flagged a known personality onboard so while we will do our usual best to get there on time, at least we will have someone in the cabin to crack some jokes should they be needed. *I love comedians!...*

"Nothing else in the Dispatch Release looks out of the ordinary. So hello, I must be going…."

Jeffrey Edgar Spaulding, ATP, Esq, Etc.

Happy flying with ACME!