ATCpro Lesson 6 Video script

Version 2, 6-13-16 D. Logan

Note: to recreate the traffic as seen in the lesson, from an older schedule database, please download and install the files in ATCproTutorial traffic db files.zip. See included readme install instructions. To see the traffic, set the slider to "Custom" 100% instead of "Commercial" 100% (see below).

<div align="center">Narrator</div>

Welcome to Lesson 6 of ATCpro! This lesson will demonstrate how to do instrument approaches at the Albuquerque facility. I will be demonstrating how to do both and ILS and RNAV using the same scenario as the last lesson.

Let's get a new scenario setup on the Duty Desk.
Make the following settings:

Facility ABQ – Albuquerque Sunport

Weather: East flow, Wind 080 degrees at 5 knots, **Storms!** (this will be IMC – instrument meteorological conditions)

Traffic: Departures - all set to 0%

       Arrivals - **Commercial** 100%,

Note: set to Custom 100% instead of Commercial 100% if custom traffic database is installed.

       Other – all set to 0%

Position: Now set North to User control and South to Computer control.

Time: set from your current time and day to 11:22 Saturday

Click the **Begin Your Shift** button.

When the program finishes loading, go ahead and pause the sim to rearrange the pop up windows on the scope for our controlling session.

On the Comm panel Click on the TX SEL and RX SEL buttons on the 1st row (if not already on). You can close this window to get it out of the way if you want.

On the Left side of the scope you will see the Flight Information strip window. Resize the window to take up less space by dragging the arrows that appear at the top and bottom of the window. You can move the smaller window to an out of the way location like over here on the right.

In the blue Communications History window on the lower left you can resize this window too to take up less space in the same way as the Strip window by dragging the arrows.

Unpause the sim and I'll explain what's going on.

Observe the briefing so we know that the scope is under our control. (wait during briefing)

Notice here is Sky West 44 62 coming along as in the last lesson. Let's go ahead and pause again so we can make some changes on the DCB.

Click on the range button and roll your mouse until it shows a range of 30. Click again to lock it in.

Click on Maps then click on map 6 to show the minimum vector altitudes or MVA. Notice these numbers that stand for altitudes in hundreds of feet. We want to make sure were not descending an aircraft below the minimum altitude that is safe.

Unpause for now and notice SKW 44 62's datatag is white and flashing. That means a center controller is trying to hand him off to us. Click on the Charlie of the datatag and it will change to a November for our position. Now a flight strip will pop up in the strip window under arrivals. (wait)
Flight SKW 44 62 has just called us up to say he is on our frequency and that he has listened to the current ATIS information broadcast with the letter "X" that contains basic weather conditions, active runways, etc.

Now we can let him know he is with us and since the weather is Instrument conditions we will tell him what instrument approach to and runway to expect. In this case, we will give him an ILS (or instrument landing system) approach for runway 8 since the wind is from the east. Note the ILS approach is never spoken by the letter such as "India Lima Sierra". It is pronounced "eye ell ess"
I will give that command now:
Sky West 44 62, expect ILS runway 8 approach
(readback) expect ILS runway 8, Sky West 44 62.

Pause the sim again so we can set up a couple more maps.
Click on the Maps button then click on arr / dep button, then KABQ. Notice on the flightstrip it says Lowbo which is the name of the arrival route that he is following. Click on map 405 which is the Lowbo3 standard terminal arrival route or STAR that will let us know what route he is taking coming in. Now click on approach then KABQ and then map number 204 which is an ILS approach diagram for runway 8. Click on done.

Unpause the sim to continue

When we get the handoff from center SKW4462 is at 1 5 000. After crossing our airspace boundary we give an initial descent that is above the MVA which is 84 or 8400' Let's give him an initial descent to 1 1 000. I'll give the command now:
Sky West 44 62 descend and maintain one one thousand.
(readback) descend and maintain one one thousand Sky West 44 62.

Next we want to give him a heading so he'll be in a good position for the instrument approach to the airport. We can give him the heading along this line here, which is one tree five. I will give the command now:
Sky West 44 62, turn right heading one tree five.
(readback) turn right heading one tree five, Sky West 44 62.

Note that it is best to give the turn direction not just to say "turn heading one tree five".

When he crosses this next line of the MVA we can give the next step of the descent which can't be lower than 75 or 7500'. Since the field elevation of KABQ is 5355' we want to give an approach altitude that is roughly 3000' feet above ground level (or AGL). We will use 8000 as the final approach altitude here. I will give the descent command now:
Sky West 44 62 descend and maintain eight thousand.
(readback) descend and maintain eight thousand Sky West 44 62.

When he gets to the point where the bottom of the data tag is about touching this race track shape line about three miles away from the extended runway center line,
Pause the sim while I describe the instrument approach.

The first part of giving an ILS approach clearance is to give him a distance or "position" from the final approach fix where the pilot will determine if he can proceed with a normal approach or break it off and make a "missed approach". The position would be about "8 miles from SUPOT". The next part to give is the "turn", or heading, to "intercept" the final approach course of 080. The heading should be at a 30 degree angle to the runway heading, in this case 100, so the aircraft can make a gentle turn. The next part to give is "altitude" to maintain until intercepting the glideslope, at which point the pilot will follow the beam with his instruments down to the runway. In this case we give 8000 as our approach altitude. The last part of the clearance is giving the actual approach clearance. This sequence is sometimes referred to as the *PTAC* to better remember it. It sounds complicated but when you put it all together it is pretty straightforward.
Unpause and I'll give the full clearance. Note that we have to break it into two commands due to the current limitation of three commands in one transmission:

Sky West 44 62 - 8 miles from SUPOT,
(readback) 8 miles from SUPOT, Sky West 44 62
Sky West 44 62 - turn left heading 100, maintain 8000 until established on the localizer, cleared I L S runway 8 approach.
(readback) 100, 8000 until established, I L S runway 8, Sky West 44 62

The aircraft will turn to intercept the localizer and line up with the runway then descend along the glideslope for landing.

Near SUPOT (the final approach fix or FAF) his datatag will turn green.
Now you can give the pilot the change to the tower's frequency:

Sky West 44 62 contact tower on 1 2 0 point tree
(readback) contact tower on 1 2 0 point tree, Sky West 44 62

When the flight strip disappears from the flight strip window you know Sky West 4462 is not owned by you anymore.

Now we will practice an RNAV approach on the next arrival from the NW, Southwest 20 04
Notice Southwest 20 04's datatag is white and flashing. Click on the Charlie of the datatag and it will change to a November for our position. Note if you forget how to pronounce the callsign on any aircraft you can right click on the target to bring up the command menu that shows how to speak the callsign. A flight strip will pop up in the strip window under arrivals. (wait)

Flight Southwest 20 04 has just called us up to say he is on our frequency and that he has listened to the current ATIS information.
Now we can let him know he is with us and since the weather is Instrument conditions we will tell him what instrument approach and runway to expect. This time we will give him an RNAV approach for runway 8 since the wind is from the east. RNAV stands for *Randon Navigation* or *Area Navigation*. It is pronounced "arr nav".
I will give that command now:
Southwest 20 04, expect RNAV runway 8 approach
(readback) expect RNAV runway 8, Southwest 20 04.

Pause the sim again so we can set up a map of the RNAV approach.
Click on the Maps button then click on approach then KABQ and then map number 208 which is an RNAV approach diagram for runway 8. Click on done. Unpause the sim.

We get the handoff from center with Southwest 20 04 at 1 5 000. After crossing our airspace boundary we give an initial descent that is above the MVA which is 84 or 8400'. Give him an initial descent to 1 1 000 as before. I'll give the command now:
Southwest 20 04 descend and maintain one one thousand.
(readback) descend and maintain one one thousand Southwest 20 04.

Now let's give Southwest 20 04 a command to go direct to the first fix of the RNAV approach, which in this case is CMSTR. I'll give that command now so you can practice:
Southwest 20 04 proceed direct "chim ster"
(readback) proceed direct chim ster, Southwest 20 04.

Once Southwest 20 04 begins the RNAV approach he will descend as dictated by the approach profile, and follow the waypoints all the way to the runway and land. We can use 9000 as the initial approach altitude for the RNAV. I will give the descent command now:

Southwest 20 04 descend and maintain niner thousand.
(readback) descend and maintain niner thousand, Southwest 20 04.

We can wait for Southwest 20 04 to get a little closer to CMSTR then give the RNAV approach clearance:

Southwest 20 04 maintain at or above niner thousand until chim ster, cleared RNAV runway eight approach.
(readback) niner thousand, Cleared RNAV runway 8, Southwest 20 04

Now the aircraft will continue to head to CMSTR then descend while following the waypoints of the approach.
When the datatag turns green you can give the change to the Tower frequency:

Southwest 20 04 contact tower on 1 2 0 point tree
(readback) tower on 1 2 0 point tree, Southwest 20 04

That's it for this lesson. In the next lesson 7 you will practice controlling two departing aircraft at the same time. **You can click the x in the upper right to end the lesson.**