# Notes from WAO 2010 session on Hiring Operators

Thursday, April 15, 2010 16:30-17:30  (Mike Stanek – session chair)

## What are we looking for in an Operator candidate?

Curiosity.  Initiative.  Ability to think and act Independently (especially if working alone), but also works well on a team (especially if working on a crew with other operators). Responsible.  A good balance of creativity and discipline.  Demonstrates leadership (especially if you're looking for future crew chiefs).  Goes beyond the minimum.  Someone who raises the average in your group.  Look for complementary pieces – not everyone with the same background and skills.

## How do we find them?

Many labs find that recent college graduates with physics or engineering degrees have the right combination of problem solving and the ability to tolerate shift work.  Former Navy nuclear reactor operators have been successful at several accelerators.  So have technicians hired from within the lab that are familiar with operations, and have demonstrated the above characteristics.

Advertisements at colleges and universities can bring good candidates.  Also, use personal connections at universities, (eg. Professors who have worked at accelerators may be able to steer a good candidate your way).  Recently hired operators may have connections to their university as well.  Use local newspaper advertisements and job fairs.  Technical journal advertisements can bring some good candidates, but may bring researchers who are trying to 'get a foot in the door' and won't stay around long.

## Screening tips

Send an email to each potential candidate describing the Operator job in detail, including the unpleasant parts.  Many applicants have no idea what they are applying for, and this gives them an idea.  It also gives you something to talk about if you proceed to a phone or in-person interview.  Some will remove themselves from consideration just based on the email.

Phone interviews can save a lot of time and expense of bringing some to the lab.  Arrange a time for the interview, and be willing to spend 30 minutes – 1 hour asking detailed questions about projects or previous work experience.  Ask questions about the email that you sent, to see if they bothered to read it.

## Interviews

Most labs conduct either a group interview or have the candidate interview with multiple key people.  Many groups have the candidate sit in the control room and talk to the operators, then later get input from those operators (beware - there may be a legal requirement that you warn the candidate that this seemingly informal conversation  is considered part of the interview).   Some groups give the candidate test questions (eg. How would you remove this radioactive part from that tunnel enclosure with minimum exposure and without spreading contamination?).  Some put the candidate in stressful 'role-playing' situations to see how they would react (eg.angry user demanding beam).   Many groups use a tour of the accelerator as a good opportunity to see if the candidate can take in a brief description and ask good questions.  ISIS in the UK has used psychometric testing to assess the candidate.  Those tests involved

putting the candidate in a general group problem-solving situation and observing the interaction. This was conducted by an outside company.

The interviewer should avoid talking too much. Ask questions and let the candidate do the talking.

Questions to ask:

Note: *Some labs must have any 'open questions' approved by Human Resources, and those questions must be asked of all candidates. If a candidate brings up a subject, or if the question relates to specific resume items, then there is more latitude.*

"Give me an example of a difficult problem you solved without much guidance in one of your previous positions." Then keep probing in more depth to assess their approach. Ask detailed questions about a project they worked on – looking for weak points and probing further to see if they can think under pressure.

"What do you know about my accelerator?" (to see if they bothered to do any research before the interview).

 "What useful criticism have you received?"

Have some odd or interesting 'conversation pieces' on hand, and see how curious the candidate is, and if they ask questions.

"Where do you see yourself in 5 years?"

"If I call your references, what's the worst thing they are going to say about you?"

Rating systems

JLAB uses a rating system filled out by each of the interviewers. It can be useful in forcing you to prioritize skills and qualities. But beware that you may have to re-assess and adjust if your 'gut-feeling' doesn't agree with the numbers.

Reference Checks

Reference checks are a must. But be aware that references may have their own motives that may not be in the best interest of the candidate (eg. Professor thinks that candidate should have completed PhD program).

Red Flags – Warning Signs

Big time gaps on resume (per Bob Mao, he may have been in jail for punching supervisor). If resume shows they were part of a big collaboration, make sure they really contributed to the project, and understand the big picture, not just their little piece.

Probation  -  After the hire, use probation period to seriously assess the new operator. Start corrective actions and documentation of problems early if any signs that the hire was a mistake.