2004 Colorado Science and Engineering Fair
Scientific Review Committee Report

I will begin this year's report with the positives that improved from looking at last year's report and comparing it to this year's problems.

1. I tried sending the SRC Determinations to the Adult Sponsors as well as to the Regional Fair Directors and this seemed to help get faster responses to our questions. However, it would be helpful if everyone would READ the notes at the bottom of the report. This would eliminate a huge number of questions that are directed my way after the reports are sent out.

2. This year, we had 284 projects to review and the SRC Determinations (after corrections were sent in) broke out as follows:
   Complete Projects – 234 (82.4%)
   Incomplete Projects – 26 (9.2%)
   Incorrect Projects – 2 (0.7%)
   Questionable Projects – 5 (1.8%)
   Interviews – 17 (6.0%)
   Violations – 0 (0.0%)
   The response to e-mails and faxes sent out was incredible. We were able to fix a lot of the problems prior to CSEF.

3. I think the addition of the Projected and Actual Start Date lines on Form 1A have helped somewhat in getting approvals PRIOR to the start of research experimentation. There were still a few issues with this, but not as bad as in the past. Remember that Research Start Date means the start of EXPERIMENTATION IN THE LAB, and not the start of library research. And the Research End Date listed, must be the date the student ended experimentation for regional fair competition. If the student wishes to work on collecting more data between the RSF and CSEF, then just put a note with the paperwork to that effect and make a new projected end date of prior to CSEF.

Now on to the areas that still need improving and some new issues that have come up.

1. Human Subjects projects were still one of the major problems with student projects, but it isn't their fault. Schools and/or school districts should have a properly constituted Institutional Review Board, consisting of a science teacher, a school administrator, and one who is knowledgeable and capable of evaluating the physical (medical doctor, physician's assistant, registered nurse) and/or psychological (psychiatrist, licensed psychologist, licensed social worker) risk involved in a given study. Also, the Adult Sponsor, the parents, the Qualified Scientist and the Designated Supervisor who oversees a specific project MUST NOT SERVE on the IRB that reviews the project.

   There also needs to be a better understanding of what risk is. ISEF defines it in the rulebook on page 14 and I urge you to read that carefully. Under the determination of risk, the three choices are:
   - Minimal risk where informed consent is recommended, but not required.
   - Minimal risk where informed consent is REQUIRED.
   - More than minimal risk where informed consent and a Qualified Scientist are REQUIRED.

   This means that if a project is rejected by the IRB, then the committee does not sign off on it and recommendations for changes or a "not on your life" message is sent to the student.

   Also, PLEASE remember that if there are different procedures that the subjects will be taking part in, there needs to be DIFFERENT Form 4's for each procedure. For example, one test group is testing product x and a second group is testing product y, then there needs to be separate consent forms for each group so that they are INFORMED as to what they will be participating in.

2. We also still need to stress the importance of detail in students' research plan attachments. A good rule of thumb in writing procedures is that there is enough detail for someone else to duplicate the experimentation (lab) part of the research. There were many times this year when we had to ask for additional information from students or teachers and if the answers had been included in the procedures to begin with, everyone would have had an easier time.

3. And finally, a Designated Supervisor does not need an advanced degree, but must be thoroughly familiar with the student's project and must be TRAINED IN THE STUDENT'S AREA OF RESEARCH. The degrees of M.O.M. and D.A.D. do not make the holders qualified to supervise anything and everything their child does in scientific research. Please have them explain how they are otherwise qualified/trained in the student's area of research.

I hope these areas of concerns and suggestions help everyone. I did not get a chance to include this report in the Adult Sponsor mailing that just went out, so please help spread the word to your teachers. I will also post these on the web site.