NSF Panel Discussion

George Hazelrigg - if you use the word develop in your research objective, your score will likely go down by 1 full point. You then need to have a plan that addresses your research objective. Thus, if you don't have a good research objective, it becomes difficult to write a good research plan. Many people fail at the Research Objective stage.

NSF funds fundamental research and education. George says, Engineering is design (vs. science). To design we have to predict and thus need predictive models. Any engineered system, how do we represent laws of nature to allow us to design systems.

The word development tends to give impression of incremental effort, so you have to be careful.

Perform research to advance the engineering knowledge base. It isn't a large-scale clean-coal study.

Innovation - how should it be included and used. Research is innovative, so there is some consistency. Don't say words that you don't or can't back up. Don't just say it is innovative, show it is innovative. Also, do your homework. Make sure that it hasn't been done before.

Also don't propose something that has been proven impossible.

Faculty hiring - big issue with areas (for example, combustion) where there are good opportunities for graduates in industry, but it is difficult to hire a new faculty member since it would be tough for him/her to obtain funding in that area. NSF is not funding much like that. Other examples might be process control in ChE or other areas.

IUCRC - focused more on the translational side of research

Broader Impacts - should include both scientific impacts as well as educational impacts.

While the overall proposal acceptance rate may be 15%, there are many factors that come into this. Many people resubmit proposals many, many times, and often it isn't much different. Clearly such action will skew the acceptance rate. Also, if there is no real research objective, then it will be difficult for them to have a plan and then it likely won't get funded. George indicated that in all the proposals he has seen in 32 years at NSF, that perhaps half did not have good objectives and thus not a good plan.

Encourage our faculty to participate in review panels. It is the BEST way for them to see what will work in terms of a proposal submission.
Also, the panel review provides a recommendation, but in the end the decision is made by the program director. Thus, it is very important to develop a relationship with the program director.