

# LSC Session on Scientific Monitoring

## March 21, 2006

Committee formed by Peter Saulson to:

- Consider the value and effectiveness of the sci-mon program to the LSC and LIGO Laboratory
- Consider the value of the program to the individual researchers and their groups

Motivation in part was to determine if \$500K/year used in running the sci-mon program (3 sci-mon/day/site) was needed

Initial arguments for the program

- Authors need to understand the data and the experiment and should contribute to the effort of running the experiment
- Assert the LSC responsibility for data validation and the quality of results

# Sci-Mon Functions

- Data management
  - Checking validity of channels
  - Determine data is being recorded
  - Determine that data monitors are functioning
- Operations
  - Working with operators – improvement in site safety
  - Advice on operational decisions that affect the science
- Specific on site analysis tasks (examples)
  - lock loss studies, correlation analysis.....
  - long term trending for commissioning

# Performance

- **Ingredients for success**
  - Enough time to become familiar with instrument and tools
  - Having a research task coupled to an analysis group or commissioning
  - Coupling to other sci-mon in the research group
- **Ingredients for failure**
  - Insufficient time to become familiar with instrument and tools
  - Inability to relate to the operators
  - No feedback to parent research group

# Suggestions to improve

- Proposal 1 (small changes)
  - Maintain 3 shifts per day
  - Leave tasks to the institution in coordination with the detector characterization group
  - Sci-mon to stay 7 days or hopefully longer
  - Task assignment and monitoring by local run coordinator
- Proposal 2 (bigger changes)
  - Reduce to 2 shifts per day
  - Otherwise the same as proposal 1
- Proposal 3 (major change)
  - One shift per day assigned by detector characterization
  - Groups assign additional sci-mon for specific tasks to be coordinated with an analysis group or the detector commissioning group
  - Report to the analysis or commissioning group
  - Spend at least 10 days at site or longer

# More suggestions

- Operational idea to maintain more continuity for smaller research groups
  - Several groups to pool sci-mon roles and shifts (J. Giaime)
- Idea to increase potential pool of good Sci-mons
  - Encourage groups to place graduate students at the sites for extended periods (B. O'Reilly, F. Raab, D. Sigg, K. Riles +++)