

Installation and Commissioning Approach for LIGO-2

- Minimize Observatory Downtime

- ›› Require early subsystem testing for LIGO-2 so that subsystem test/acceptance is not part of the overall interferometer installation & commissioning

- ›› Require a higher level of subsystem maturity through test so that commissioning time is minimized

- LIGO-1 is not switched off until:

- ›› Science Objectives have been Achieved

- ›› All Planned Full-Scale Prototype or First-Article Tests are Successful

- ›› All Production Completed

- ›› All Subsystem Pre-assembly Completed

- ›› All installation procedures have been evaluated

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- Factors which reduce Installation & Commissioning Duration Compared to LIGO-1:
 - ›› Observatories are already Staffed & Equipped for LIGO-2
 - ›› Significantly more expertise is available as a result of LIGO-1
 - ›› LIGO-2 Subsystem development precedes installation (not in parallel, as is the case for LIGO-1)
 - ›› Major Physical installation tasks will be worked in 2 shifts
 - ›› LIGO-2 installation will not be subsystem production/delivery limited (procuring more installation tooling/fixtures)
 - ›› LIGO-2 will leverage off of the large and growing LSC community
- For comparison:
 - ›› estimated installation/commissioning duration for LIGO-1 is ~36 months
 - ›› planned installation/commissioning duration for LIGO-2 is ~16 months