



April 2002

### **By what measurements would you conclude you have had a successful planned outage on your gas turbine?**

Usually measurements include: On time. On budget. No lost-time accidents. Vibration levels significantly reduced. No foreign object damage experienced with debris or tools unsuspectingly left inside the machine.

#### **Consider this:**

**Client X** sent a maintenance supervisor to the **PAL** maintenance seminar in Albany, NY, in September 2001 (unfortunately the same week as 9/11). The supervisor (let's call him **Pete**) was so impressed with the knowledge he gained from **Charlie Pond** and **Al Shuman**, that he returned to his plant convinced that his people could perform a Hot Gas Path inspection planned for January--February 2002. In past outages, the **Client X** had always turned to the OEM or others to do the work. **Pete** thought, with a brief training school prior to the outage, his people could do all the work themselves, provided they had the proper technical supervision.

**PAL** was contacted and we agreed to the following:

1. **Charlie Pond** would teach a two-day HGP school on site for nine of their plant personnel.
2. Charlie would then stay on as the **PAL** technical advisor (**TA**) the Monday following the school.
3. **Skip Beck** (another **PAL** advisor) would act as a technical supervisor (**TS**). This is a new service offering by **PAL** (at a lower rate than **TA** services) to provide a second technical person. Skip's role was to act as the **TA**'s right-hand man, especially because the labor crew is inexperienced.



Charlie Pond and Skip Beck change first-stage turbine buckets

Well, all things fell into place and **Pete** was able to convince the general manager that plant personnel could do all the work required. **PAL** provided a competitive proposal and won the job. The outage began on January 21<sup>st</sup>. A five-day, 10-hour per day work schedule was planned. **PAL** provided a CPM for the project. The outage proceeded well ahead of schedule during the disassembly phase. In fact, they were so far ahead (mind you with an inexperienced crew) that there was a short *demobilization* for the **PAL** technical team (about 5 days). Once the client received some parts that were sent out for repairs, the job remobilized. The assembly period proceeded almost flawlessly. Even the plant manager (thinnest guy in plant) was called upon to tape the flanges for leak checks.

The unit reached full speed, no load (FSNL) on February 22<sup>nd</sup>. Vibration levels have never been so low. Not a single leak was discovered. This is amazing!

### **Was the outage successful?**

Well, when you can accomplish all the work, including the replacement of the first-stage buckets with the rotor in place, on time, on budget and without a lost-time accident, we'd have to say **YES!**

Not a band-aid was required. Self-satisfaction for the work crew and management was very evident. The client is still assessing the savings realized by doing the outage using plant personnel (from there and a sister plant in a nearby town) but you can be assured that it was substantial.

Thus, the Tip of the Month for April 2002 is this: With proper training, supervision, planning and technical advisory services: you, too, can do a Hot Gas Path or Major inspection at your plant.