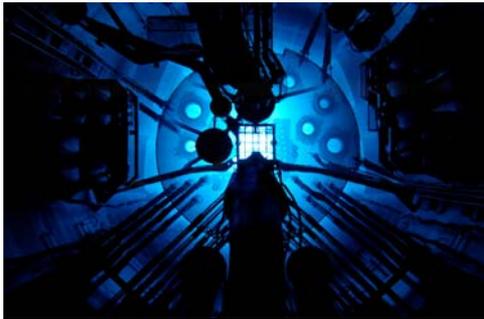


**Welcome to the first edition of Bragg Peaks.**

**OPAL news**

The OPAL reactor has now operated for the equivalent of 26 days at full power after reaching nominal full power (20 MW) on the 3<sup>rd</sup> of November 2006. The first fuel change is scheduled for early February. Other technical issues associated with commissioning and bringing the facilities into service are being addressed.



The cold-neutron source commissioning has been delayed somewhat due to difficulties with gas purity and consequent turbine problems in the cold box. The next cold source tests are now expected by March.

**Around the instruments**

All major components of the initial seven instruments are now delivered. Because HIFAR operations came to an end at the end of 2006, all our efforts are now fully focused on OPAL instrumentation (2-3 scientists per instrument), but the status of the instrument commissioning is in different phases.

**Echidna** (*high-resolution powder diffractometer*)

On 18 December 2006, Echidna collected its first diffraction pattern.



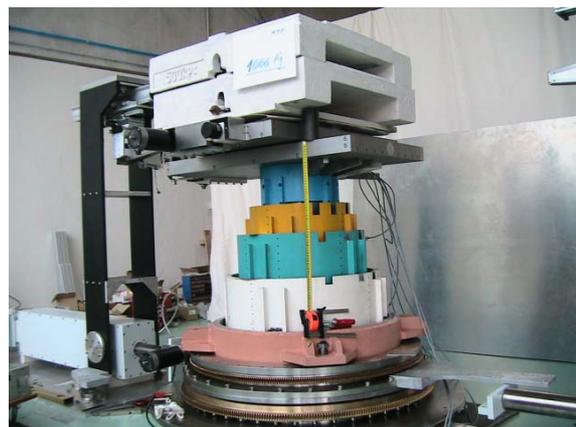
**Koala** (*quasi-Laue diffractometer*)

Koala's assembly and installation is nearly finished. Radiation tests will start when neutrons next become available (February 2007).



**Kowari** (*strain scanner*)

The sample/detector table and slit systems were delivered in November 2006. The photo shows the sample table being tested in Berlin, lifting a load of 1,000 kg by 0.7 m.



**Quokka** (*small-angle neutron scattering*)

Quokka has now taken delivery of the final major component of the instrument - the 20 m-long collimation system from Mirrotron, Hungary.

Guide installation is underway and is due to be completed in early February. Following successful site acceptance tests, we will start integration of all assembled components.



**Platypus** (reflectometer)

Before Christmas, Platypus saw the successful installation of the pre-chopper guides, from Swiss Neutronics. These guides transport neutrons up-to and through our chopper system. Pre-commissioning tests on the communication between SICS (our instrument control server) and the chopper system are performed, and SICS is now able to control the choppers, allowing integrated control of reflectometer operations.



**Taipan** (thermal three-axis spectrometer)

Taipan's monochromator drum was assembled and being tested in the factory, then disassembled and being assembled now in the reactor-beam hall:



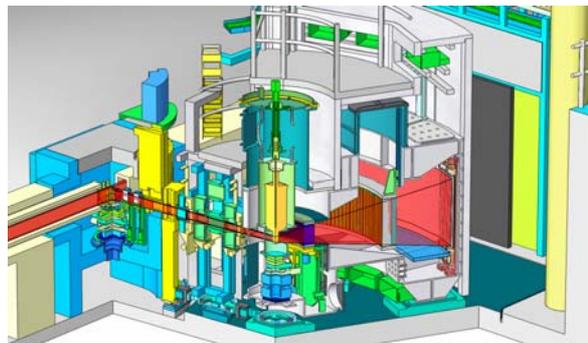
**Wombat** (high-intensity powder diffractometer)

The detector for Wombat arrived in the 2<sup>nd</sup> week of January 2007 and its testing on the instrument is about to commence. The photo was taken at Brookhaven Lab before sending it to ANSTO.



**Pelican** (time-of-flight spectrometer)

Pelican's conceptual design (phase 1) has been finished. The phase 2 - engineering design has started.



## **Sika** (cold three-axis spectrometer)

Sika is coming to the end of its conceptual design phase.

## **Announcements**

### **Commissioning of instruments**

<i>instrument</i>	<i>commissioning</i>	<i>friendly user experiments</i>
Echidna	commenced	May – July
Koala	start in February	May – July
Wombat	start in February	May – July
Kowari	start in April	June - Aug
Platypus	start in May	Aug - Oct
Quokka	start in June	Sept – Nov
Taipan	start in June	Sept – Nov

After the commissioning phase all instruments will have friendly user experiments, before they will be officially scheduled.

### **Proposals**

Given the delays in commissioning the reactor, cold source and instruments, we now anticipate a rolling proposal round to accommodate the differences in the commissioning phase of the instruments. Our general philosophy is that for each instrument, a measurement must have been made in the main detector from neutrons scattered by a sample at the normal sample position (as is now the case for Echidna) before we will announce a call for proposals on that instrument. Therefore, we plan as follows:

**March:** Open call for proposals for at least 2 instruments (from Echidna, Koala, and Wombat).

**Mid-April:** Deadline for proposals.

**31 May:** Meeting of the Programme Advisory Committee (PAC).

**July/Aug.:** Scheduling of first beam-time allocation.

Please note that this schedule may yet change again, depending on how the reactor and instrument commissioning progresses.

### **Festivities surrounding the reactors**

The official opening of the new neutron-beam facility will be on 18 April 2007, followed by a science/business launch the next day.

The 30<sup>th</sup> of January 2007 marks the official shutdown of HIFAR; a documentary on HIFAR

will be launched on 4 April 2007 at the Powerhouse Museum.

## **Faces**

*Klaus-Dieter Liss* was awarded one of two ANSTO Senior Research Fellowships. The focus of his fellowship will be to develop neutron and synchrotron scattering techniques as tools for investigating the effects of thermal and mechanical processes on the microstructure of alloys. Such processes are instrumental in properties of metal components both during production and during their use in extreme environments such as nuclear reactors and high-temperature boilers.



In January, the Bragg Institute welcomed the newcomers:



*Anne Rich* helps with the operation of our x-ray reflectometer and SAXS (small angle x-ray spectrometer) instrument.

*Ron Nelson* strengthens our data-acquisition, detector and data-analysis team.

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