TRIUMF

Canada's national laboratory for particle and nuclear physics
Laboratoire national canadien pour la recherche en physique nucléaire
et en physique des particules

TRIUMF Electronic Logbook System

Broadcasting Activities Beyond the Control Room

Eric Lee | ISAC Operator | TRIUMF

Accelerating Science for Canada
Un accélérateur de la démarche scientifique canadienne

Owned and operated as a joint venture by a consortium of Canadian universities via a contribution through the National Research Council Canada
Propriété d'un consortium d'universités canadiennes, géré en co-entreprise à partir d'une contribution administrée par le Conseil national de recherches Canada

Overview

- History of the logbook evolution from paper to web-based electronic logbook in the ISAC facility at TRIUMF.
- Motivations for the electronic logbook.
- Features for more detailed and accurate documentations.

Background

- TRIUMF started with paper logbooks for documenting shift activities.
- Useful for incoming shifts to know exactly what happened before.
- Eventually became useful for support groups as well.

Paper Logbook Limitations

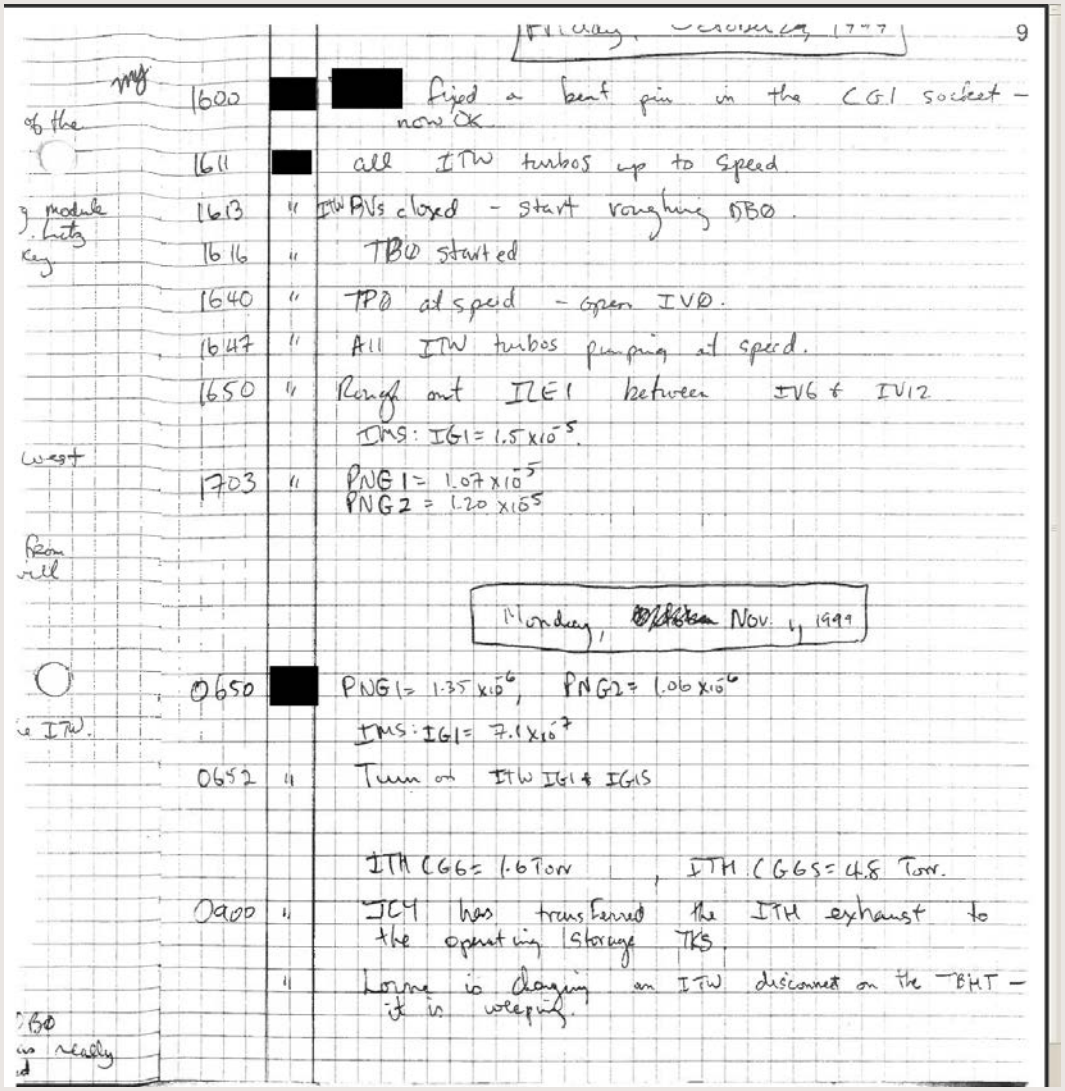
- Stylized handwriting.
  - Can become easier to read through experience.

- Single copy.
  - Everyone has to come to the Control Room to read the logbook.
    - Introduced additional traffic in the Control Room.
    - Led to potential distractions to operators.

ISAC Electronic Logbook

- ISAC started with a goal for an electronic logbook (elog) system.
  - Initially, paper logbook was used along the elog.
  - Eventually phased in documenting completely in the web-based electronic logbook.

ISAC Logbook - I



Friday, October 29, 1999 9

1600 [redacted] fixed a bent pin in the CG1 socket - now OK

1611 [redacted] all ITW turbos up to speed

1613 " ITW BVs closed - start roughing TBO.

1616 " TBO started

1640 " TPO at speed - open IVO.

1647 " All ITW turbos pumping at speed.

1650 " Roughing out ILE1 between IV6 & IV12

IMS: IG1 = 1.5×10^{-5}.

1703 " PNG1 = 1.07×10^{-5}
PNG2 = 1.20×10^{-5}

Monday, Nov. 1, 1999

0650 [redacted] PNG1 = 1.35×10^{-6}, PNG2 = 1.06×10^{-6}

IMS: IG1 = 7.1×10^{-7}

0652 " Turn on ITW IG1 & IG5

ITH CG6 = 1.6 Torr , ITH CG5 = 4.8 Torr.

0900 " JCY has transferred the ITH exhaust to the operating storage TKS.

" Lorne is changing an ITW disconnect on the "BHT" - it is weeping.

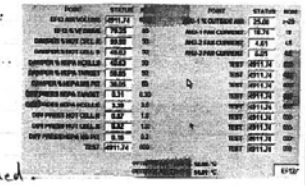
ISAC Logbook - II

23:25 [redacted] checked ITWTGHT and ITWTBHT systems for target cooldown. Shut off ITW BIAS and ITWEE. still there is a force on ITW:IV5 and IMS:IV1 from last shift. Reboot DDCPC. [redacted] is here.

SUNDAY JULY 16, 2050

0015 [redacted] MAINTENANCE WEEK.

0630 [redacted] BUILDING ENTRANCE AND SERVICES CHECK:



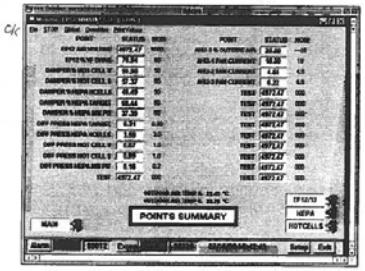
12:17 [redacted] Target cool down has been finished.

12:20 [redacted] Target change and maintenance week. ITWEE & ITW BIAS are off.

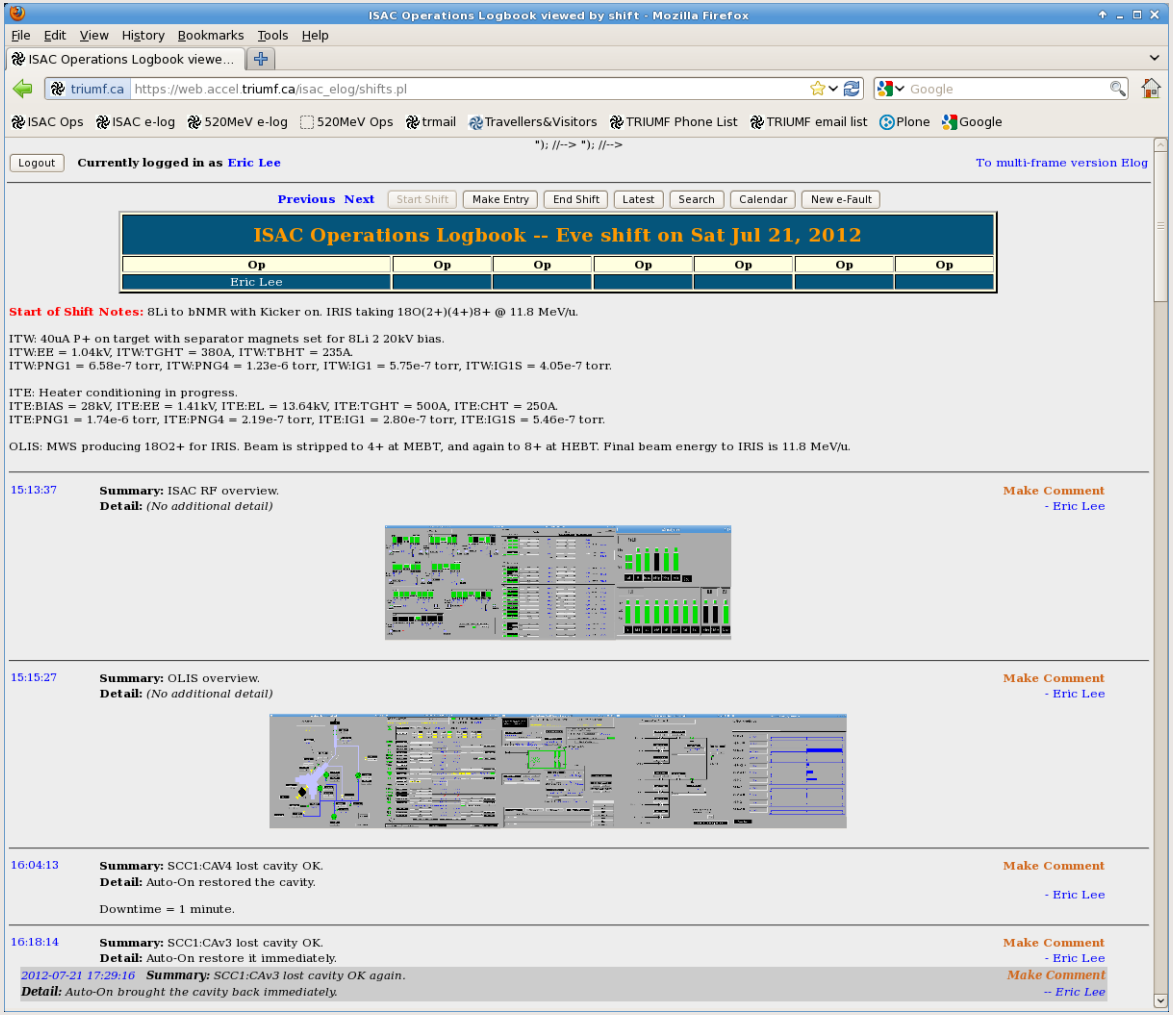
16:29 [redacted] Walked around ISAC Facility, everything seems OK.

16:50 [redacted] Checked ddcpc it is OK

17:00 [redacted] checked EPICS Health Monitor, ok



ISAC Logbook –III



Motivations

- Accessibility
- Searchability
- Storage

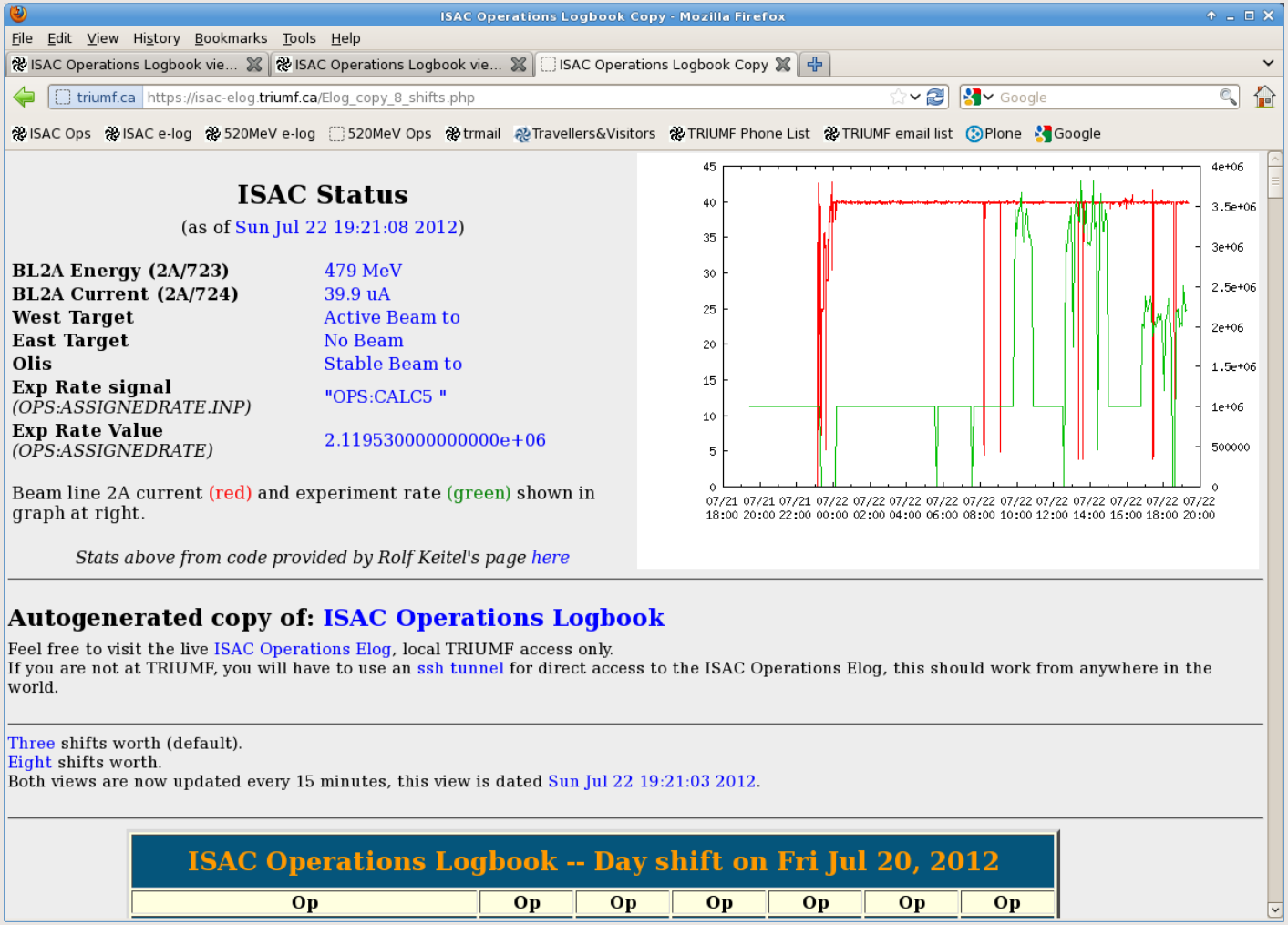
Accessibility

- Web-based.
  - Eliminated the single copy physical limitation.
  - Accessible through a browser.
  - No need to visit the Control Room to read the logbook.

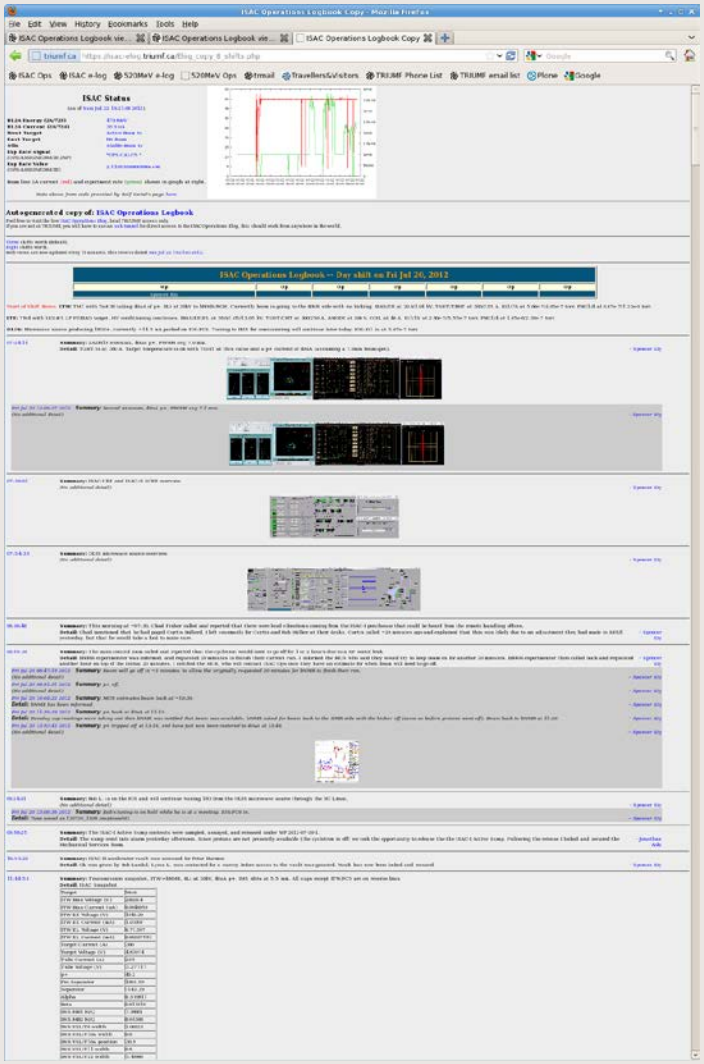
Accessibility - II

- Off-site access.
  - TRIUMF personnel may log in to the external elog.
  - Further reach for reporting shift activities and machine status.

External Elog



External Elog - II



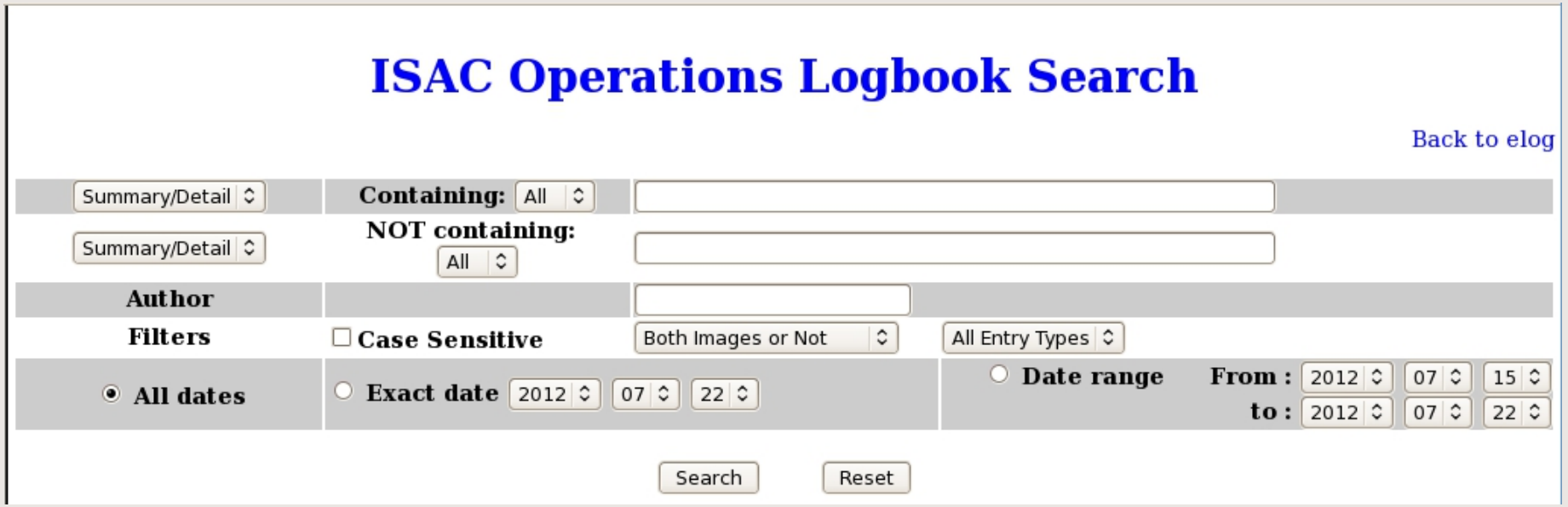
Accessibility Benefits

- Easily accessible to a large audience on or off site.
- Global access.

Searchability

- Difficult to search in paper logbook.
- Accompanying database for the elog.
  - Search parameters may include:
    - Date
    - Author
    - Keywords
- Speed up finding details for reference or investigation.

Search Fields



Searchability Benefits

- Searching for past events and details requires less time and became more effective.

Storage

- Physical logbooks require large storage space over time.
- Long term preservation considerations:
  - Fireproof
  - Water-proof
  - Flood-proof
  - Insect-proof
- Additional costs for storage solutions.

Storage Benefits

- Electronic logbook information stored digitally.
- Takes up less physical space.
- Backed up regularly.
  - Multiple back-ups are possible.
- Low cost for digital storage expansion.

Unintended Side Effects

- Instructions may be overlooked among the entries.
- Misinterpreted criticism.

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Thank you!
Merci

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