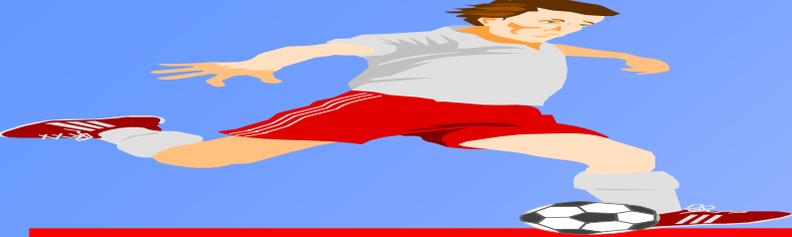




BNL ORPS Trending & Lessons Learned Re-design

**Presented by Ed Sierra
ORPS/Lessons Learned Coordinator
Quality Management Office**

**ESH Coordinators Meeting
September 22, 2005**

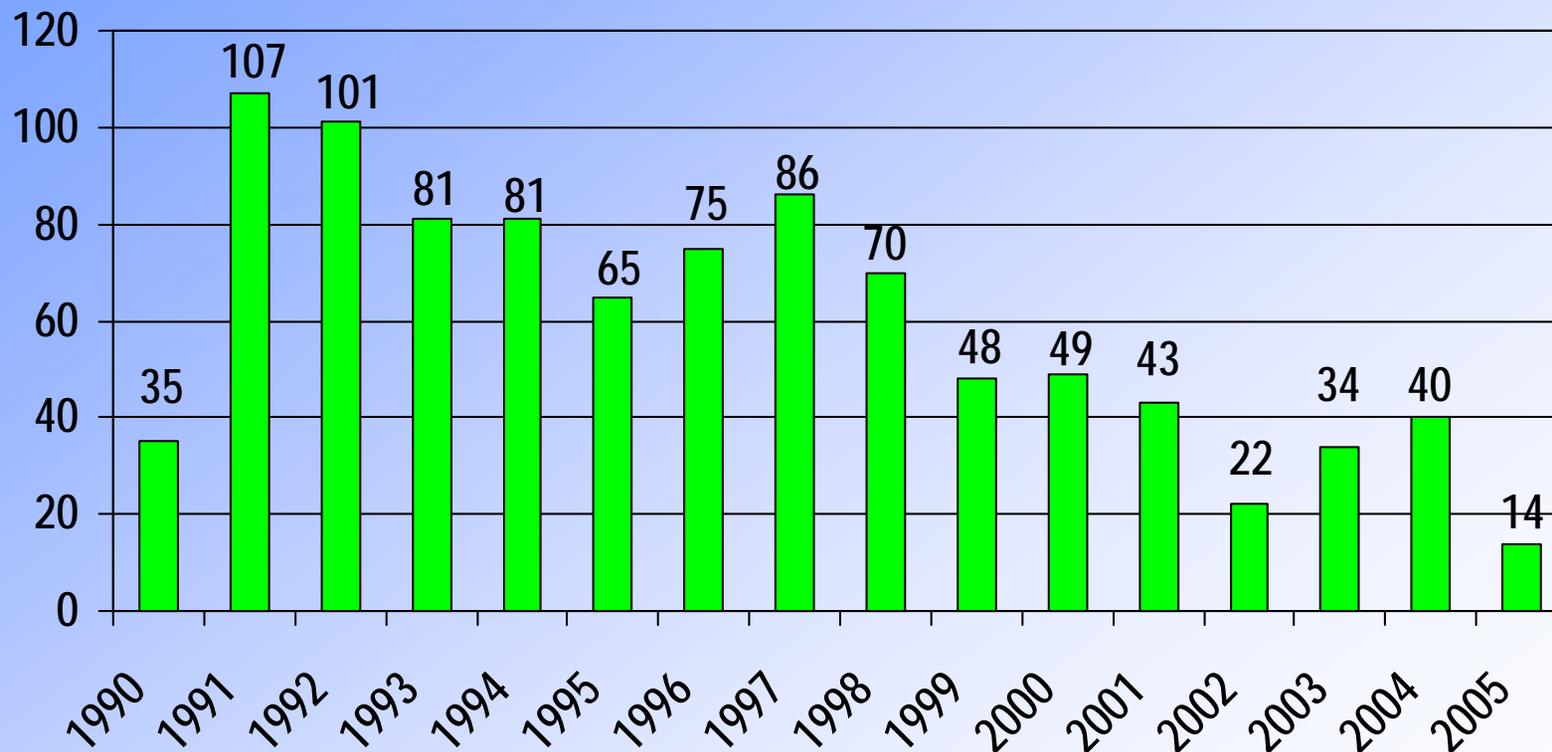


Agenda

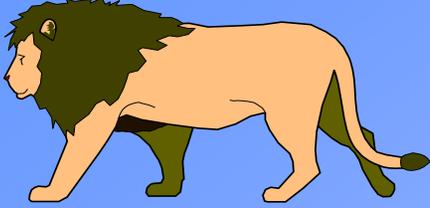
- ORPS Trending
- LL Re-design 2005

BNL ORPS

by Calendar Year Report Submitted

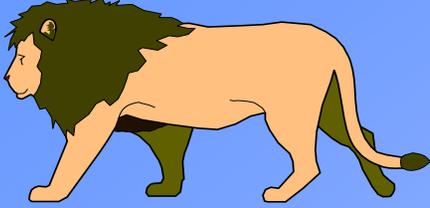


As of 09/20



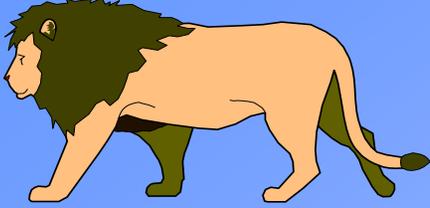
CAT Electronic Entries

- 07/07 – KK, < 1 gal hyd oil spill from PE line truck
- 07/07 – KK, Chemistry student passes out, taken to hosp, not work related
- 07/12 – AL, EOC opened to track hazardous waste shipment
- 07/13 – AL, Chemical Hole contract worker ill, not work related
- 07/14 – AL, Momentary loss of LIPA power, no fault of BNL
- 07/18 – KS, LIPA Power Dips Cause Unplanned Shutdown of Cyclotron
- 07/21 – KS, Minor Occupational Injury (wood splinter) at Building 1005R
- 07/26 – AL, Safety Notice - Faulty Pressure Relief Valve**
- 08/01 – PB, Simple Fracture of Pinky Finger while working on dump truck
- 08/05 – MB, NSLS User trans from BNL Dorm to Hospital, non-work related
- 08/06 – MB, Discovery of fixed Rad Cont @ Bldg 527
- 08/08 – MB, Rail Car (Gondola) Derailment at BNL**
- 08/10 – MB, BNL Fire Department extinguishes small brush fire
- 08/15 – RK, <1Cup oil spilled at railroad track by south firebreak



CAT Electronic Entries

- 08/15 – RK, BNL Initiated “time out” at New Research Building site
- 08/16 – RK, <1-gallon hydraulic fluid on pavement in rear of B326
- 08/17 – RK, Rail jitney radiator cracks, ~ 7 gals of anti-freeze spill
- 08/17 – RK, Hg laden soil temp stored at Old HWMF
- 08/18 – MB, Fire Rescue responds to smoke detector false alarm at NSLS
- 08/21 – RK, Phones/fire alarm trans to BNL Firehouse oos for ~ 1 hour
- 08/24 – PB, Contractor - 4K dpm skin cont on neck @ B650
- 08/26 – RK, (Update) Hg/Cs-137 laden soil stored at Old HWMF
- 08/29 – SM, Person(s) unknown struck & damaged Wall of Bldg 1002B
- 09/06 – MD, (Update) Contractor - 4K dpm skin cont on neck @ B650 (SC4)**
- 09/06 – MD, GW treatment system (Sr-90) fitting leak, to sump @ B855
- 09/07 – ES, (Update) Contractor - 4K dpm skin cont on neck @ B650 (SC3)**
- 09/08 – MD, 09/08 - PE truck hung up on berm behind B912
- 09/13 – KS, Tritiated water (2200 pCi/L) leak (30-50 gal) to soil near B930A



CAT Electronic Entries

09/16 – KS, 500 dpm alpha skin cont on hand @ B650

09/19 – AL, Non-occupational illness results in trans to hospital



Programmatic Bins

- Personnel Contamination
- Medical Department
- NSLS
- Physics
- CA-D
- BGRR Project
- Plant Engineering (New Bin)
- Utilities Struck
- Railroad Tracks
- Material Transportation
- Electrical Shock Hazards
- Material Handling Issues
- Waste Management
- Chemistry
- Environmental Restoration



Programmatic Review

■ Personnel Contamination – 2004

- 04/14 – 5,000 dpm on top of worker's shoe at BGRR (RAR)
- 05/21 – <50,000 dpm cont on experimenters at AGS
- 08/31 – ~ 200 dpm/100cm² on experimenter at PET

■ Personnel Contamination – 2005

- 02/02 – Personnel Contamination at Cyclotron
- 02/08 – Radioisotope Production Lab Cont Identified @ 901
- 03/30 – 14,000 dpm of beta/gamma on sneaker at PET
- **09/07 – Contractor - 4K dpm skin cont on neck @ B650 (SC3)**
- 09/16 – KS, 500 dpm alpha cont on hand @ B650



Programmatic Review

■ Medical department, 2004

- 01/27 – MEL hot cell filters not replaced at age of 66 months
- 02/03 – Water leak floods 490 with 150 gallons
- 02/03 – Slip and fall on slick floor
- 03/10 – Failed HEPA filter efficiency test at B-801
- 03/12 – 20ml leak from D-waste storage tank in B-801
- 04/08 – Chill water spill at 801 during seasonal flushing
- 04/28 – BLIP target shaft leaks water to secondary containment
- 05/09 – New target window at BLIP leaking
- **05/25 – Herpes-B Virus Precautions in Animal Facility (SC3)**
- 07/30 – Minor leak from “D” waste valve in B-801
- 08/10 – Minor I-135 spill in B-490 (RAR)
- 08/16 – Carpenter drills into water line in B-490
- **10/29 – RWP and Trans Safety Violations in B-490 (SC3)**



Programmatic Review

■ Medical department, 2005

- 01/17 – Steam Leak in Basement of Building 490
- 01/26 – Meth Chloride Spill and Overexposure @ 490 (SC3)
- 04/21 – Post-doc faints when taking blood samples @ 490
- 06/07 – Researcher transport Rad experiment in private vehicle



Programmatic Review

■ NSLS, 2004

- 01/16 – Pre-action SS spurious trip
- 02/07 – Unapproved work in laser hutch (Bldg. 729)
- 04/18 – Unauthorized SDL operation
- 05/13 – Window pane falls from second floor
- 06/03 – Improper cable connection on exp floor
- 07/12 – Worker feels mild electrical tingling in his finger
- 07/22 – Hydrofluoric Acid Contamination of Technician
- 08/07 – Trace amts. of H-sulfide leaked from gas cylinder
- **08/10 – Worker experiences electric shock (SC3)**
- 09/22 – Voltage leakage through hook on crane at NSLS



Programmatic Review

■ NSLS, 2005

- 03/03 – Suspect Bolts Found in Crane During Inspection @ NSLS (SC4)
- 04/20 – Haz concerns associated with energized magnet
- 06/28 – SC, Syringes (w/needles) found in Research Laboratory Trash Receptacles @ Bldg 725A



Programmatic Review

■ Physics, 2004

- 07/01 – Laser interlock check overdue by 3 weeks @ ATF
- 10/21 – Trimmed tree branch breaks window at physics

■ Physics, 2005

- 04/25 – Smoke alarm from overheated plastic tubing @ Bldg 832



Programmatic Review

■ CA-D, 2004

- 01/13 - Worker breaks ankle while preparing for cable pull (SC3)
- 03/22 - Welder's helper receives minor eye irritation
- 05/17 - Damaged detector at STAR after 10 foot drop
- 05/21 - <50,000 dpm cont on experimenters at AGS
- 07/14 - Fire in a RHIC RF cavity power supply in Bldg 1004A
- 08/11 - Heating element inside cold box causes burn to hand (SC 3)
- 10/15 - Potential fire hazard in AGS cable tray (SC4)
- 10/15 - Low voltage leakage through hook on crane at bldg 930
- 11/08 - Fire Inside Power Supply Cabinet (SC4)
- 12/02 - Unauthorized access into the STAR hall



Programmatic Review

■ CA-D, 2005

- 01/07 – Employee falls while walking (Reason Unknown, SC3)
- 02/09 – Slip and Fall Results in Hairline Fracture of Kneecap (SC3)
- 03/14 – Cooling Water Leak at LINAC due to stuck open relief valve
- 02/22 – High pH detected at recharge basin HTW, Bldg 930
- 04/19 – Worker breaks finger while climbing ladder @ AGS
- 05/04 – Sparking From ATR Main Magnet Cooling Water Pump
- 07/21 – Minor occupational injury (wood splinter) at Bldg 1005R
- 08/29 – Person(s) unknown struck & damaged Wall of Bldg 1002B
- 09/13 – Tritiated water (2200 pCi/L) leak (30-50 gal) to soil near B930A



Programmatic Review

■ BGRR Project, 2004

- 04/14 - 5,000 dpm on top of worker's shoe (RAR)
- 05/03 - Leakage of cont water from Sea-Land Container (SC4)
- 05/11 - Filter cart sep from resp during work in rad/cont area (SC3)
- 09/03 - DSB work performed outside of procedure (SC4)
- 10/05 - Injury due to steel plate falling at bldg 701 (SC3)

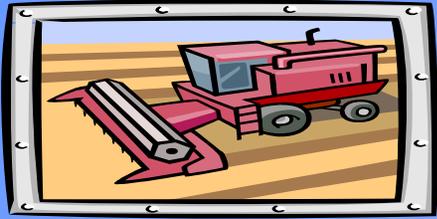
■ BGRR Project, 2005



Programmatic Review

■ Plant Engineering, 2005

- 08/01 – Simple Fracture of Pinky while working on dump truck
- 09/08 – PE truck hung up on berm behind B912

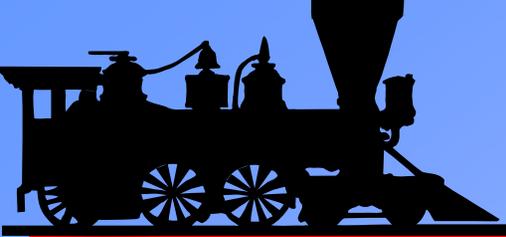


Programmatic Review

■ Utilities struck, 2004:

- 04/19 – **Electrical utility conduit strike (SC3)**
- 07/07 – Domestic water main strike
- 09/07 – Comm. cable severed during excavation work
- 12/09 – Unexpected discovery of 2.4K deenergized cables during excavation

■ Utilities struck, 2005:



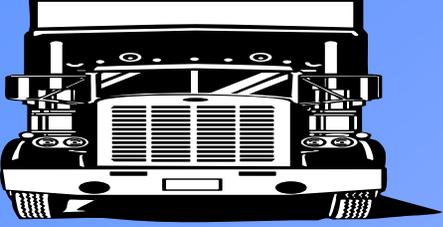
Programmatic Review

■ Railroad Tracks, 2004

- 09/03 - Empty railroad car derailed at BNL track switch
- 09/04 - Off-site train car derailment (SC4)
- 09/14 - Inadequate rail safety procedures (SC4)

■ Railroad Tracks, 2005

- 01/05 - Empty Railroad Car Derailed
- 08/08 - Rail Car (Gondola) Derailment (SC3)



Programmatic Review

■ Material Transportation, 2004

- 06/25 - B-52 waste cont support chnl rain water accumulation (SC4)
- 07/26 - Transportation of Solidified Liquid Low-Level Waste (SC1)

Material Transportation, 2005

- 03/17 – Excessive Drainage from BNL Rail Cars arriving at Envirocare (SC3)



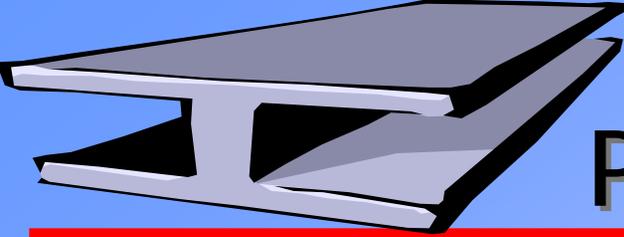
Programmatic Review

■ Electrical Shock Hazards, 2004

- 07/12 - Worker feels mild electrical tingling in his finger @ NSLS
- 08/10 - Worker experiences electric shock @ NSLS (SC3)

■ Electrical Shock Hazards, 2005

- 04/01 - Unexpected Discovery of Hazardous Energy Source @ Magnet Division (SC3)

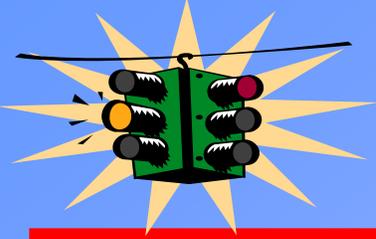


Programmatic Review

■ Material Handling Issues, 2004

- 03/05, Load Falls off Flatbed Truck, (SC3)
- 03/24, Recurring Material Handling Problems, (SCR)
- 05/17, Damaged detector at STAR after 10 foot drop
- 06/11, 500 # steel block falls (3 – 4 feet) from forklift
- 10/05, Injury due to steel plate falling at bldg 701 (SC3)

■ Material Handling Issues, 2005



Programmatic Review

■ Waste Management, 2005

- 01/07 – WMD Worker Enters Controlled Area with Expired Training
- 06/30 – ~2 inches (150 -200 gallons) of water flooded the equipment level at the BMRR
- 04/21 – Worker injures back while moving drum
- 09/16 – KS, 500 dpm alpha cont on hand @ B650



Programmatic Review

■ Chemistry, 2005

- 02/02 – Personnel Contamination at Cyclotron
- 02/08 – Radioisotope Production Lab Cont Identified @ 901
- 03/30 – 14,000 dpm of beta/gamma on sneaker at PET
- 05/11 – R.A. Cuts Hand/Requires Stitches @ Bldg 555



Programmatic Review

■ Environmental Restoration, 2005

- 05/26 – Technician Cuts Thumb During Cable Repair @ Bldg 811
- **06/07 – Personnel Exposure to Excessive Noise (SC-3)**
- 06/21 – White Powder Substance Found Behind Bldg 657
- 08/26 – Hg/Cs-137 laden soil stored at Old HWMF
- **09/07 – Contractor - 4K dpm skin cont on neck @ B650 (SC3)**
- 09/06 – GW treatment system (Sr-90) fitting leak, to sump @ B855

What is a “Lesson Learned”?

Raising the Bar!

- A lesson learned is the knowledge acquired from an innovation or an adverse experience that *causes a worker or an organization to improve a process or activity* to work safer, more efficiently, or with higher quality. In short, a **change in behavior** occurs.
- Successful  Significant
 - Identified need for improvement
 - BHSO Assessment of BNL LL Program: Sept. 2004
 - “Cold Fusion” supported improvement agenda

2005 LL Re-design Project Goals

- Increase the publication rate of LL Communications
 - Create a “Submit a Lessons Learned” web application for LL authors
- Prompt/capture feedback of published LL Communications
 - Will adopt
 - Distributed for Information
 - Not applicable
 - Previously adopted
 - Reading for Interest only
 - Under investigation
- Encourage staff to subscribe to Lessons Learned by providing links to BNL and DOE subscription services

Edit/View/Delete Lessons Learned Comment(s)

Sorted by FB.datestamp desc

Click on any underlined column heading to sort by that column

<u>Lesson Learned Title</u>	<u>FName</u>	<u>LName</u>	<u>Action</u>		<u>Date Submitted</u>	<u>Reason for Reading</u>	<u>Comments</u>	<u>Edited</u>	<u>Edited Date</u>
Hazards of Magnetic Fields on Ferromagnetic Equipment	Philip	Harrington	<u>View/Edit</u>	<u>Delete</u>	09/14/2005	Will adopt			
Electrical Utility Conduit Strike	Steven	Coleman	<u>View/Edit</u>	<u>Delete</u>	09/07/2005	Reading for interest only			
A Team Risk/Hazard Analysis Approach to Effective Facility Decommissioning	Steven	Coleman	<u>View/Edit</u>	<u>Delete</u>	08/26/2005	Previously adopted			
Electrical Utility Conduit Strike	Steven	Coleman	<u>View/Edit</u>	<u>Delete</u>	08/26/2005	Reading for interest only			
BNL Radiological Work Permit Required During Radiographic Examination of Welds	Steven	Coleman	<u>View/Edit</u>	<u>Delete</u>	08/26/2005	Reading for interest only			
Electrical Intrusion Events	Steven	Coleman	<u>View/Edit</u>	<u>Delete</u>	08/26/2005	Reading for interest only			
Electrical Shock From Heat Tape Used in Cryogenic Application	Courtney	Patterson	<u>View/Edit</u>	<u>Delete</u>	08/24/2005	Will adopt	Will adopt this into our process!		
Damaged Trailer Allowed Access to Brookhaven National Laboratory	Andrew	Mc Nerney	<u>View/Edit</u>	<u>Delete</u>	08/24/2005	Reading for interest only			

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SBMS delivers Lab-wide policies and procedures that BNL needs to support a compliant requirements management program.

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Lessons Learned

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The purpose of Lessons Learned is to share information based on experience to promote improvement in business and work practices. For more information, see the [Lessons Learned Instructions](#), [Lessons Learned Subject Area](#), or the [Lessons Learned Incentive Program](#) external Lessons Learned links, see the following: [DOE Corporate Operating Experience \(OE\) Program](#), [DOE Lessons Learned Links](#), [DOE C Learned Collection](#), and [AIHA Laboratory Health & Safety Committee](#).

Work/Function Major Bins:

- [Alternate Fuels](#)
- [Authorization Basis](#)
- [Business & Support](#)
- [Conduct of Operations \(C.O.O.\):](#)
 - [C.O.O., Configuration Management](#)
 - [C.O.O., General](#)
 - [C.O.O., Lock & Tag](#)
 - [C.O.O., Procedure Following](#)
 - [C.O.O., Procedure Writing](#)
 - [C.O.O., Work Control](#)

Priority Descriptor (PD):

- [XML](#) [RSS](#) → [PD, Yellow, Caution](#) (Potential for harm)
- [XML](#) [RSS](#) → [PD, Green, Good work practice](#) (Promoting or producing positive proven results)
- [XML](#) [RSS](#) → [PD, Blue, Information](#) (Fostering interest to others)
- [XML](#) [RSS](#) → [PD, RED, Urgent](#) (Actual or potential harm)

Hazard Bins:

- [Confined Space](#)

Welcome to the Lessons Learned Submission section

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	Pending: Lesson Learned has not been submitted to Coordinator.
	Draft: Lesson Learned has been submitted to Coordinator, but has not been locked.
	Locked: Lesson Learned has been accepted by Coordinator, and is locked.
	Published: Lesson Learned has been published, and is live on SBMS.

Title	Status	Action
Loose Inner Electrical Panel Cover Results in Sparking When Outer Door Opened	published	View edit delete
Potential Failure of Certain High Pressure Gas Cylinder Valves - Type CGA 580	published	View edit delete
"Defense in Depth" Provides Successful Fire Safety at High		

Color blocks help identify work flow status

Aging ability issues	published	View edit delete
ALARA Good Work Practices	published	View edit delete
Excessive Noise	pending	View edit delete
Back Injury Sustained Due to Lanyard Breakaway Feature Failure	published	View edit delete
Battery Compartment Ribbon Cable Insulation Wear Results in Siemens Alkaline Battery Powered Mark 2.2 Electronic Dosimeter Failures	published	View edit delete
...		

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Use this form to submit a new Lessons Learned

Important Note: All fields are required, if no information is available for a field please specify 'N/A' for that field.

Lessons Learned Title: <i>Short & meaningful</i>	<input type="text"/>
Lessons Learned POC: <i>Life number for the Point of Contact for this Lessons Learned</i>	<input type="text"/> <input type="button" value="Find Employee"/>
Effective Date:	<input type="text"/>
Identifier: <i>Organizational Unit letter</i>	<input type="text"/>

Seeking Best in Class Title!

- Auto deliver LL during work planning
 - Integrate with the Hazard Identification Tool
- Determine if DOE's programming staff can modify their delivery of LL to ease transfer to complex-wide LL programs
 - Contact established
- Advertise LL Re-design