Enclosure

Advisory Committee on the Medical Uses of Isotopes (ACMUI)
Fingerprint Efficiency Subcommittee Report
August 1, 2008

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Charge: The Subcommittee was charged with examining fingerprinting options for improving efficiency & reducing costs for licensees. This report briefly describes optional mechanisms for licensees to use in satisfying the requirement to submit fingerprints of workers who need access to radioactive materials that require increased controls. The report provides options for improving efficiency and reducing cost without judging which option(s) might be best for a particular licensee. Small licensees might find that the best option for them is not the best option for larger licensees and vice versa. Also, the technology used by local law enforcement or the licensee's own Security work unit may dictate which option a licensee uses. Finally, suggestions are provided on actions licensees may take to decrease costs and increase efficiency and actions the NRC should consider to remove obstacles for licensees.

Methods: The Subcommittee discussed numerous processing and fingerprinting options with security specialists and members of local law enforcement. Comments were also received from a number of licensees. Processing options considered were: processing fingerprints in-house, using an outside vendor who could collect fingerprints and send them to NRC, and using law enforcement either on-site or at law enforcement headquarters.

Costs (excluding fingerprinting labor and employee time away from work):

The cost of fingerprinting by local law enforcement or by a vendor is usually a per-person fixed price. Licensees who want to perform their own fingerprinting in-house need to purchase equipment to do so. The cost of equipment and supplies is dependent on the sophistication of the process selected. Following are approximate costs for equipment and supplies for three common processes.

1. Hand-written, hand rolled:
    Fingerprinting station $150
    Hand cleaner $ 40
    Total   ~ $200

2. Computer-printed, hand rolled:
    Fingerprinting station $150
    Hand cleaner $ 50
    Laptop computer $600
    Laser printer $400
    Misc. connectors $ 50
    Equipment cart $200
    Total   ~ $1500

3. Automated Fingerprint Identification System (AFIS): ~ $30,000
    Printrak (Motorola)
    Cogent (Motorola)
    Morpho
    NEC

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Outcomes:

Processing Options: Internal processing (i.e. fingerprinting in-house) is convenient, allows complete control of scheduling and rapid re-printing of unclassifiable fingerprints when using an AFIS and is good for ongoing fingerprinting needs. However, it requires registration with State Department of Public Safety, and currently, cards could be rejected by FBI for not being processed by an "official" law enforcement agency. Vendor processing offers guaranteed quality, and information privacy liability is passed on to the vendor. Most vendors use AFIS, so processing is fast. However, it may be expensive depending on the number of persons to be fingerprinted. Most law enforcement agencies use AFIS so processing is fast, and information privacy liability is passed to the agency. However, current jurisdictional issues require that the fingerprints be submitted to NRC rather than directly to the FBI.

Options for processing fingerprints in-house: Fingerprinting with hand-written, hand-rolled fingerprint cards is fast and inexpensive (e.g. Fingerprinting station costs approximately $200). No electronic technology is required and technician training is minimal. However, inaccurate or illegible entries and poorly rolled fingerprints may result in a high rate of rejected (unclassifiable) cards. Computer-printed, hand-rolled fingerprint cards offer fast generation of multiple cards, accurate and legible entries, standardized abbreviations, a permanent data record, and less risk of unclassifiable cards. Fingerprints still can be poorly rolled, however. An AFIS provides fast generation of multiple cards, accurate and legible entries, standardized abbreviations, a permanent data record, and the possibility of electronic submission. The system quickly identifies unclassifiable fingerprints, so employees can be reprinted on the spot. However, AFIS is expensive and requires regular calibration and upgrades and network requirements to NRC, FBI, or State Department of Public Safety.

IV. Summary
1. Best price: Hand written, hand rolled, internal processing
2. Best quality: AFIS, vendor processing
3. Most Convenient to use: AFIS, internal processing
4. Highest customer throughput: Computer printed, hand rolled, internal or vendor processing
5. Highest data security: Hand written, hand rolled, internal processing
6. Govt. preference: AFIS, Law Enforcement processing
7. Govt. processing: AFIS, Law Enforcement processing
8. Best search capabilities: AFIS, internal processing

How to Decrease Costs and Increase Efficiency

1. Actions that licensees should consider:
   a. Use fingerprints submitted under other state or federal regulatory requirements such as select agents or medical licensing (see Attachment 3, Par. 3 of order)
   b. Reduce the number of people approved for unescorted access by pairing up or by designating a few people to escort others or to perform the irradiations. This may not be practical for all licensees, especially for blood banks or transfusion medicine laboratories that operate 24/7 but may be workable in a research setting.
   c. Isolate irradiator in a small room to reduce the number of people who need access. In small blood banks and hospital transfusion medicine departments, this may not increase safety if the laboratory is already secured. In large transfusion medicine departments it may be justifiable but still costly.

  d. Research facilities establish a core facility where samples are irradiated by a small staff. This option would be expensive if staff must be hired for this purpose only but may reduce costs if incorporated into a few designated technologists' duties.

  e. Order allows relaxing certain requirements including requesting that certain parts of order not apply to a specific individual, e.g. someone with an active federal security clearance. However, this may be rarely applicable, and the paperwork may be onerous. (See Attachment 3, Par. 3 of order).

  f. If employees must travel some distance, e.g. 20 miles, for fingerprinting, arrange for licensee Security or local law enforcement to do the fingerprinting on site.

2. Actions that NRC or others should consider to remove obstacles for licensees:

  a. Licensees have experienced many unclassifiable fingerprint cards (some say as high as 25%). However, when fingerprinting physicians for licensing purposes, they seldom experience unclassifiable cards submitted to FBI through local or state law enforcement. Thus, it appears that NRC's handling of fingerprint cards causes many unclassifiable errors. The NRC should address jurisdictional issues to allow licensees to submit directly to the FBI which would decrease opportunities to degrade the quality of fingerprint cards and may increase the number of acceptable agencies or vendors that provide this service. The NRC should also more specifically identify acceptable agencies and vendors to facilitate fingerprinting. The list could be referenced on the NRC website.

  b. The NRC should address portability of results, i.e. transfer of trustworthy and reliability (T&R) determinations, from one licensee to another to avoid the additional cost associated with repeating the T&R determination including fingerprinting. This process could be analogous to exposure history requests. Alternatively, the NRC could establish a national registry that would allow T&R radiation workers to transfer to another licensee without repeating the fingerprinting and criminal records check.