

## Body Scanner

### 1200.1 PURPOSE AND SCOPE

The low dose, X-Ray based operation of the Intercept Tek84, body scanner will be used as a tool to assist staff with detection and prevention of weapons, contraband and prohibited items from entering the secure areas of the jail. The purpose of this policy is to establish an effective radiation safety and protection program that will reduce the risk of exposure related to the use of ionizing x-radiation, and provide for the safe operation of the Intercept Tek84 scanner.

### 1200.2 DEFINITIONS

**Body Scan:** X-ray technology used to produce an image revealing the presence of contraband concealed on or inside of a subject.

**Body Scan Device:** A stationary system for obtaining full height radiographic images of a person to detect any kind of weapons, explosives, drugs, and precious stones and metals either concealed under the clothes, swallowed, or hidden in anatomical cavities of the human body (for example, drugs in capsules) without causing harm to the scanned person. (i.e., Intercept Tek84 system)

**X-Ray:** Also referred to as x-radiation, is a form of electromagnetic radiation similar to light but of shorter wavelength and capable of penetrating solids and of ionizing gases.

**Radiation:** Radiation is the process in which energetic particles or waves travel through a medium or space. There are two distinct types of radiation; ionizing and non-ionizing. X-radiation is an ionizing radiation.

**Radiation Survey:** Measurement of the X-radiation equivalent dose rate at the external surfaces of the body scan device, the personnel work station(s), the boundaries of the working zone, and in adjacent rooms if applicable.

**Exposure:** A term defining the amount of ionizing radiation that strikes living or inanimate material. The Federal Drug Administration definition is found at 21 CFR 1020.40(b) (5).

**Dose:** The quantity of radiation or energy absorbed.

**RSO:** Radiation Safety Officer.

**Anomalies:** Something that deviates from what is standard, normal, or expected.

### 1200.3 GENERAL INFORMATION

The Intercept Tek84 scanner will be utilized to scan new intakes, housed inmates, objects and property. The intent is to prevent weapons, drugs and prohibited items from being concealed on or in a person's body that would compromise the safety and security of the jail facility.

All arrestees and housed inmates brought into the jail may be subject to an x-ray scan, unless a condition exists that would prohibit scanning. This Transmission X-Ray scanner does not reveal identity or gender specific images, and may be used for cross gender scans. As a standard

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practice, only male staff are allowed to view scans of males and female staff are allowed to view scans of females. If contraband or anomalies are detected on a scan, staff of the opposite sex may view the scan if a secondary opinion is needed.

### **1200.4 GUIDELINES FOR SCANNING**

#### **Pacemakers and other medical devices**

There is no FDA published material indicating the use of the body scanner will adversely affect implanted medical devices, such as a pacemaker. A person who claims to have such a device should first be examined by medical staff prior to a scan. However, the presence of such a device should not preclude the use of the scanner, unless other circumstances known to medical staff or jail staff indicate otherwise.

#### **Pregnant Inmates**

- (a) The Body Scan device shall not be used to scan arrestees or inmates who are known or alleged to be pregnant under any circumstances. A statement by the arrested person or inmate that she is pregnant is sufficient for officers to assume the subject is exempt from a body scan.
- (b) Pregnancy tests are administered to female arrestees at the time of intake. If medical staff advises a female arrestee claiming to be pregnant has tested negative (not pregnant), the female arrestee shall be scanned with the body scan device. This will only occur if the negative test result is revealed before the female is housed.
- (c) Prior to scanning a female arrestee or inmate, the officer performing the scan shall ask the arrestee/inmate if they are pregnant.

Inmates that have been housed into the inmate population may be scanned any time there is a belief they may have concealed weapons, drugs or contraband on or in their body (unless pregnant).

The scanner may be used to scan any item belonging to an arrestee or inmate who is booked into, or housed within the Shasta County Jail. Scanning of a new arrestee's property may be conducted when articulable facts exist to believe the contents of the property may pose a risk to the safety or security of the facility. Use of the scanner to inspect the contents of packages or articles not belonging to an arrestee, or items that will not be stored inside the jail property room will not be conducted absent clear legal authority or valid court order. The purpose of the scanner is to prevent contraband from entering the facility, and to detect weapons, drugs and contraband possessed by inmates within the facility, or hidden within their property.

The Intercept Tek84 body scanner does not take the place of a pat search or strip search when facts exist to warrant a strip search.

#### **Intoxicated Arrestees**

Care should be exercised when scanning persons who demonstrate an acute level of intoxication to such an extent that standing, or remaining still for the duration of the scan might not be possible. If the person demonstrates objective symptoms of intoxication to an extent that their safety may

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be compromised the scan should be delayed to a later time, or deferred completely if the person will be released when sober or with sergeant/watch commander approval.

### Fresh Arrests

All new intakes will be scanned using the following procedures:

- (a) The arrestee will subject to a pat search followed by removal of all property from their clothing.
- (b) Following removal of all property, the arrestee will be escorted and instructed to stand on the platform with their face pointed away from the scanning beam. The handcuffs should be removed to allow the arms hang freely to the sides of the body.
- (c) If the screening deputy suspects the inmate may have concealed weapons or drugs in their shoes, the officer should scan the shoes separately to avoid potential use of a weapon, or destruction of evidence.
- (d) The intake process will continue if no anomalies are detected.

### 1200.5 DETECTION OF CONTRABAND

If the scanning process of a fresh arrest reveals an object that is clearly identifiable as a weapon, drug or contraband, the following procedures will be followed:

- (a) If the object is clearly a weapon or suspected drug, appropriate officer safety practices will be utilized, the arrestee secured with restraints and placed under constant supervision.
- (b) The Watch Commander will be advised of the detection.
- (c) The arrestee's clothing will be searched in the approximate area where the object appeared to be located.
- (d) If the clothing search is unsuccessful, a strip search may be authorized by the Watch Commander, based on the totality of the facts known to staff (see below).
- (e) If the object appears to be in a body cavity such as the rectum, vagina or mouth, the arrestee will be asked to remove the object. The arrestee will be taken to an appropriate location, for privacy, to facilitate the removal by the arrestee.
- (f) If the arrestee refuses to remove the object, or the object appears to be in a location where a physical body cavity search or intrusive medical procedure would be required, medical staff will be notified of the suspected concealed item and apparent location.
- (g) Upon a determination from our medical staff that the object presents a medical threat to the health or welfare of the inmate, or can't be removed without intrusive medical procedures, the arrestee will not be accepted for booking.
- (h) The shift supervisor will download and print a copy of the image which will be provided to the arresting officer. The arresting officer will be required to obtain a medical clearance before accepting the arrestee.
- (i) Nothing in this policy will preclude staff from conducting more than one scan of an inmate or arrestee to ensure all possible contraband has been detected.

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### **1200.6 HOUSED INMATES**

To prevent the introduction, transfer or concealment of weapons, drugs and contraband inside the facility, all booked and housed inmates may be scanned at any time. No specific articulable facts are required beyond the routine security precautions necessary to safeguard the safety and security of the facility, and the health and welfare of the inmate population.

Considerations that may warrant use of the scanner for housed inmates:

- (a) Inmates returning from court, outside medical appointments or inmate transfers from other institutions where the inmate(s) may have had access to weapons, drugs or contraband.
- (b) Inmates within housing units who demonstrate signs or symptoms of drugs intoxication.
- (c) Housed inmates who are the subject of a jail or criminal investigation involving weapons, drugs or contraband.
- (d) Confidential Informant information that indicates a specific inmate is concealing weapons, drugs or contraband.
- (e) Other information known to any staff member that would indicate an inmate, or group of inmates, may be in possession of weapons, drugs or contraband.

NOTE: To maintain the integrity of the Shasta County jail and control the spread of contraband, we encourage jail staff, when time permits, to randomly scan inmates of different classifications.

### **1200.7 REFUSAL BY ARRESTEE / COMBATIVE INMATES**

- (a) Due to the nature of the scanning process, scanning a combative arrestee or inmate will not produce a usable image. Arrestees or inmates who refuse to cooperate with the scanning process will be, at a minimum, placed into an observation/holding cell where their activities can be monitored. If the arrestee's charges, history or behavior would otherwise qualify them for a strip search, the arrestee will be strip searched and given jail clothing while housed in the observation/holding cell.
- (b) If the arrestee would not otherwise be qualified for a strip search, their refusal to submit to a scan may be considered with other factors such as behavior, symptoms of drug use or observations that would seem to indicate an attempt to conceal a weapon or drugs. The Watch Commander will make this determination based on the totality of circumstances.
- (c) The arrestee may be accepted into custody and booked, but will remain in the observation/holding cell until they have been scanned for weapons, drugs or contraband.
- (d) If an inmate is housed in an observation/holding cell due to a refusal to submit to a scan, medical staff will be notified.

In any case where an inmate is placed in a holding cell pursuant to this section, the placement will be reviewed by jail administration within the first twenty-four (24) hours of placement, and every forty-eight (48) hours thereafter.

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### 1200.8 PRESERVATION OF IMAGES

In the event weapons, drugs or contraband items are detected, the image will be flagged as a “positive” and noted in the log book maintained at the operator station. The shift supervisor will be notified of the detection and appropriate steps will be taken to preserve the image, if needed as evidence for a criminal prosecution. Sheriff’s Office protocols for booking evidence will be utilized for criminal cases. If the evidence is being provided to another agency, that agency will be responsible for documenting chain of custody and preservation of the image (digital or print).

- (a) When contraband is recovered as a result of the scanner, a jail incident report will be generated and the scan number shall be notated in the incident report.
- (b) All other scans, when conducted for routine facility security purposes, will be documented using the “Scanned Inmate” log book located at the operator’s station.

### 1200.9 INMATE PROPERTY

- (a) Inmates have traditionally used a variety of methods to conceal weapons, drugs and contraband. Methods have involved concealing prohibited items inside inmate commissary containers, issued bedding and within envelopes used for legal materials.
- (b) Notwithstanding language regarding the property of fresh arrestees or persons not housed in the jail facility, any property located in inmate housing may be scanned at any time, and for any reason.
- (c) Inmate property located in a jail property bag may be scanned when staff has information to believe articles within the property bag may contain illegal property, weapons, drugs or contraband that would pose a risk to this facility if not recovered from the bag, a risk to another institution if the inmate is transferred, or a risk to the general safety of the public if the inmate is released.

### 1200.10 SCANNER SYSTEM SAFETY AND OPERATING PARAMETERS

The following provisions shall be adhered to by all staff:

- (a) Upon becoming aware of any safety issues related to a body scan device, staff shall immediately report their concerns to their supervisor, who will forward them to the Radiation Safety Officer.
- (b) Operators of a body scan device shall use it in a responsible manner, in accordance with this policy, and in accordance with the manufacturer’s operating instructions.
- (c) The operator’s manual for the body scan device shall not be removed from the officer’s work station of the unit.
- (d) All part removal and installation of scan device components shall be completed by a service engineer of the representative company and/or other qualified service contractors.

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### 1200.11 STAFF TRAINING

**Body scan device operator training consists of the following subject matter:**

- (a) Design of the scanner: purpose of the basic components, principles of the scanner operation.
- (b) Radiation and overall Scanner operation safety principles: History of X-ray, nature of X-rays, the X-ray Tube, penetration and absorption, security X-ray machines, X-ray scanners features, prohibited items, limitations of X-ray, operating procedures, and health and safety.
- (c) Control of the scanner: switching on, testing, data input, scanning and switching off.
- (d) Principles of investigation of digital images: analysis (determination) of objects on the human body, using the mathematical filters, scaling, etc.
- (e) Malfunction diagnostics.
- (f) Practice and knowledge testing.
- (g) STAFF WHO MAY BE PREGNANT OR HAVE CONFIRMATION OF PREGNANCY SHALL NOT OPERATE OR BE IN THE PROXIMITY OF TEK84 SCANNER DURING ITS USE.

**NOTE:** No employee shall operate a body scan device without first successfully completing proper training.

### 1200.12 DUTIES OF THE RADIATION SAFETY OFFICER

The Radiation Safety Officer (RSO) will:

- (a) Maintain the Radiation Safety and Protection Program and coordinate the safe operation of x-ray based body scan devices in compliance with applicable state and federal regulations.
- (b) Ensure all new or relocated radiation sourcing equipment operated by the Shasta County Sheriff's Office within the Custody Division is registered with the Radiologic Health Branch of the California Department of Public Health (form number RH-2261).
- (c) Ensure all radiation sourcing equipment operated by the Shasta County Sheriff's Office within the Custody Division is maintained and serviced in compliance with applicable state and federal requirements.
- (d) Arrange and schedule any needed repair or service for a body scan device upon being advised of any damage or malfunction.
- (e) Retain any survey, service, inspection, and instrument calibration records for the lifetime of the body scan device.
- (f) Ensure that the annual fee for each body scan device is paid to the Radiologic Health Branch of the California Department of Public Health prior to the anniversary of the effective date of the license.

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**NOTE:** Title 17 of the California Code of Regulations, Section 30231, requires the above payment and mandates that failure to do so requires all usage of the body scan device to immediately cease until such time that the fee and any late fees have been paid.

### 1200.13 DUTIES OF THE WATCH COMMANDER

In each facility containing an x-ray based body scan device, the watch commander, with the assistance and coordination of the Radiation Safety Officer, will:

- (a) Receive authorization from the RSO prior to allowing staff to operate any new x-ray emitting equipment.
- (b) Notify the RSO upon becoming aware of any maintenance issues related to a body scan device.
- (c) Notify the RSO immediately upon becoming aware of any safety issues related to a body scan device.

### 1200.14 TEK84 BODY SCAN DEVICE SAFETY FEATURES

The system operation modes are preset by the manufacturer during installation and are not to be changed by the operator.

The following design features of the system make it possible to minimize radiation doses for staffing conducting the scan and persons being scanned:

- (a) X-ray generator enclosed in the X-ray protection case.
- (b) Slit diaphragms system, making it possible to obtain a narrow fan-shaped beam.
- (c) X-ray protection shutter cutting off output of the X-ray radiation from the generator.
- (d) Inbuilt X-ray radiation filter.
- (e) Highly sensitivity digital X-ray radiation converter.
- (f) Inbuilt dosimeter purposed to monitor the personal dose rate under any mode of the X-ray generator operation.
- (g) A monitor located inside the scanning unit indicates that the X-ray radiation from the generator is generating a scan.
- (h) The key switch on the Kiosk, when deactivated, cuts off the X-ray radiation from the generator with the X-ray protection shutter.
- (i) The X-ray protection shutter cuts off the X-ray radiation from the generator in case of deviations from the system mechanisms and electronic devices operation parameters and conditions set by the manufacturer as well as in case of malfunctions.
- (j) In case of a failure of the X-ray protection shutter, the high voltage is not supplied to the X-ray tube.
- (k) The software tests the system upon its switching on and in the process of scanning. Detected faults messages are displayed on the operator monitor.

### Failure of Safety Features / Vendor Repair

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The above safety features are required to be functioning to operate the system. Should any of these features become inoperable, the operator of the body scan device will:

- (a) Shut down the body scan device.
- (b) Immediately notify his/her supervisor
- (c) The supervisor will:
- (d) Notify the RSO and Jail Administration. The Radiation Safety Officer or shift supervisor will contact a contracted vendor to make any repairs as necessary.

### **Annual Servicing and Survey of Body Scan Devices**

The calibration, periodic annual maintenance of the X-Ray scanner and radiation survey will be performed only by persons and contractors authorized to perform such services. Refer to the Intercept Tek84 Operations Manual for detailed service tasks.

### **Radiation Survey**

An annual radiation survey shall be performed on each body scan device to ensure no radiation exposure to operators:

- (a) Upon installation of a new unit;
- (b) At intervals not exceeding one year;
- (c) Upon relocation of an existing unit;
- (d) Immediately following any service that could potentially increase the system output.

This survey shall only be performed by persons and contractors authorized to perform this service.

### **1200.15 RADIATION DOSES AND DOSIMETRY PROGRAM**

#### **Safety of the Persons Scanned**

The inspected person dose rate per inspection does not exceed the contracted value of 0.1-1.0  $\mu\text{Sv}$ .

STAFF WHO MAY BE PREGNANT OR HAVE CONFIRMATION OF PREGNANCY SHALL NOT OPERATE OR BE IN THE PROXIMITY OF THE INTERCEPT TEK84 BODY SCANNER DURING ITS USE.

#### **Dose Per Screening**

The minimum radiation dose to which an inmate or arrestee being scanned is exposed per scanning session, does not exceed  $90 \mu\text{Sv}$ . For the Tek84 body scan device, the annual quote of the dose for one person in case of repeated inspections of him/her is set to be 30% of the limit of the man-caused exposure of the population to the radiation (that is,  $0.25 \text{ mSv/year}$ ).

The three scan techniques available on the Tek84 body scan device are:

- (a) "Low" ( $0.25 \mu\text{Sv}$  per scan), "Medium" ( $0.50 \mu\text{Sv}$  per scan), and "High" ( $0.90 \mu\text{Sv}$  per scan).



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- (b) Taking into account the above characteristics of the body scan device, it allows the same person to be inspected up to 1000 times per year at .25 uSv, 500 scans per year at .50 uSv and 277 scans per year at .90 uSv. (Two to three scans per day).
- (c) Each respected scan level produces a slightly higher level of image resolution. To maximize the ability of staff to detect small items with "loose" degrees of density, the "high" dose rate should be utilized as the default scanning level.

### Safety for operator and Bystanders

The Intercept Tek84 body scanner is a shielded unit which allows bystanders and the operators protection from the level of exposure per day and year.

**BYSTANDERS WHO MAY BE PREGNANT OR HAVE CONFIRMATION OF PREGNANCY SHALL NOT BE IN THE PROXIMITY OF THE TEK84 BODY SCANNER DURING ITS USE.**

### System Check

A weekly status equipment and safety check of each body scanner shall be performed and logged by the RSO or their designee.

Staff completing the status equipment and safety check will:

- (a) Inspect the device for obvious damage.
- (b) Ensure all access panels are securely in place.
- (c) Ensure all accessible (external) cable connections are secure.
- (d) If the system is not already on, turn it on using the key switch (clockwise);
- (e) Verify that the "POWER ON" light is lighted.

If any damage or malfunction is found during a system check, staff will:

- (a) Power the unit off.
- (b) Notify their immediate supervisor who will notify the Facility Manager or designee.

The shift supervisor will:

- (a) Advise the RSO the scanner may need service or repair.
- (b) Ensure the scanner is not operated until appropriate service or repairs have been completed.
- (c) If it is believed that the damage or malfunction may compromise the safety of any persons in the immediate vicinity of the device, the emergency procedures outlined within will be followed.

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### **1200.16 EMERGENCY PROCEDURES**

If an emergency situation occurs, the body scan device shall be powered off and the appropriate personnel shall be notified in accordance with the system check requirements.

**NOTE:** If the control panel is not accessible or functioning, the main power breaker for the system must be shut off and/or the unit should be unplugged immediately.

**The main power disconnect for the Tek84 Body Scan Device is located on the pillar next to the Tek84 Body Scan Device.**

If a situation occurs in which staff suspect possible exposure to excessive or dangerous levels of radiation while operating the body scan device, the operator will immediately notify the shift supervisor. The shift supervisor will assess the situation and circumstances. If a risk exists, the shift supervisor will see that the scanner is shut down appropriately and will notify the RSO.

If it is suspected that there was a potential exposure to excessive or dangerous levels of radiation, the shift supervisor will ensure that the use of the body scan device is immediately discontinued and notify the RSO and Jail Administration. The RSO will:

- (a) Schedule any needed service and a radiation survey on the identified body scan device.
- (b) If it is deemed safe to do so, ensure that the body scan device is surveyed in the condition it was when it became suspect.
- (c) Only clear the body scan device to return to normal operations if it is determined to be safe to do so by a service engineer of the Tek84 representative company and/or other qualified service contractors.

If it is believed a radiation leak has occurred, the RSO will ensure that a service engineer from Tek84 or other qualified service contractor will calculate the approximate exposure (radiation intensity) of the person(s) possibly exposed.

State and federal regulations mandate that information related to radiation exposure be made available to staff that operate and are in proximity to radiation machinery.

<http://www.nrc.gov/reading-rm/doc-collections/cfr/part020/full-text.html>

<https://www.cdph.ca.gov/Programs/CEH/DRSEM/CDPH%20Document%20Library/RHB/rhb2364.pdf>