REDAC / NAS Ops

Review of FY 2018 Proposed Portfolio

Runway Incursion Reduction Program (RIRP)

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Runway Incursion Reduction Program (RIRP)

Benefits to the FAA:

- **FAA Strategic Priority 1 – Make Aviation Safer and Smarter**
- **FAA Performance Metric 4 – Reduce Category A & B (most serious) runway incursions to a rate of no more than 0.395 per million operation and maintain or improve through FY 2018**

- **RIRP is the FAA Response to NTSB Recommendation A-00-66:**

"Require, at all airports with scheduled passenger service, a ground movement safety system that will prevent runway incursions; the system should provide a direct warning capability to flight crews. In addition, demonstrate through computer simulations or other means that the system will, in fact, prevent incursions."

RIRP Overview Capabilities

People:

- Program Managers: Matt Royston, Ben Marple
- Support Engineers: Amit Choudhri, Peter Nguyen

Laboratories:

- MIT/LL:
  - Safety Logic and Technology Development
  - Engineering and Human Factors
- Volpe:
  - Research / Data Mining
  - Human Factors

Anticipated Research in FY16 and FY17

Planned Research Activities

- Runway Incursion Prevention Shortfall Analysis (RIPSA) Candidate Airports Site Surveys – FY16
- Small Airport Surveillance Sensor (SASS) demonstrations – FY16
- Evaluation of new technologies for inclusion within the RIRP Portfolio to address the outcome of the shortfall analysis/ 2015 FAA Runway Safety Call to Action – FY16 / FY17

Expected research Products

- **RIPSA Report – FY16**
- **System Requirements and preliminary Cost Estimates for "Right-site-Right-size" technologies at candidate airports – FY16**
- **Evaluation of SASS performance at KBED – FY16**
- **Business Case Analysis Report for RIPSA technologies – FY17**

Emerging FY18 Focal Areas

- **Operational Evaluation of localized surveillance and annunciation technologies at RIPSA Candidate Airports following the right-site, right-size model**
- **Surface Taxi Conformance and Monitoring for RI prevention**
- **Potential integration of SASS system with runway safety logic and annunciators**

Runway Safety Assessment (RSA)

Research Requirement

- New: Develop Program Requirements for potential technologies at candidate airports as identified in the RIPSA report.
- Sponsor: Runway Safety Group (AJI-14)
  POC: James Fee, Manager, Runway Safety, AJI-141

Outputs/Outcomes

Products:

- System Requirements and Cost/Benefit Documents for feasible technologies.
- Analysis of Alternatives (AoA) document for feasible technologies.

FY 14/15 Accomplishment / Issues

- Completed evaluation of the responses received for the Market Survey for 7 candidate technologies.
- Completed Runway Incursion Prevention Shortfall Analysis (RIPSA) report documenting RI causal factors and identifying small-medium airports that need RI prevention technologies.

Out Year Funding Requirements

FY14	FY15	FY16	FY17	FY18
$ M	$ M	$ 2.5M	$ 2.5M	$ 3.5M

Small Airport Surveillance Sensor (SASS)

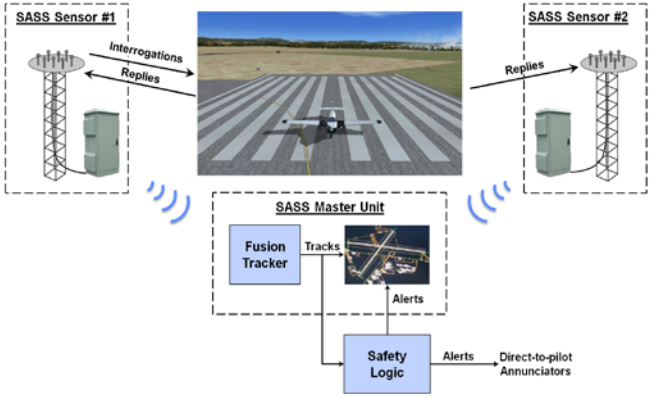
Research Requirement

- New: Develop Low Cost Surface Surveillance Sensor
- Sponsor: Runway Safety Group (AJI-14)
  POC: James Fee, Manager, Runway Safety, AJI-141

Outputs/Outcomes

Products:

- SASS system



FY 14/15 Accomplishment / Issues

- Built and tested SASS Master and Slave mobile units
- Developed and tested real-time signal processing software
- Conducted preliminary field tests at Handsome Field (BED)
- Evaluated the performance of the SASS system against DGPS truth data

Out Year Funding Requirements

FY14	FY15	FY16	FY17	FY18
$ M	$ M	$ 1.5M	$ 2.5M	$ 1.5M