COE CST Tenth Annual Technical Meeting

Spaceport Operations
Online Reference Guide
Task 380-NMSU

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New Mexico State University
Students:
Richard (Chase) Bailey and Miles Stapleton

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Agenda

- Team Members

- Task Description

- Schedule

- Goals

- Results

- Conclusions, Acknowledgement and Future Work

Team Members

- People
- Principal Investigator: Dr. Patricia Hynes

  - Students:

Richard (Chase) Bailey
Junior, Finance & Accounting

Miles Stapleton
Senior, Applied Mathematics

- Research Partner and providing Matching Funds

Greby Space Services
Commercial Space Venue Support
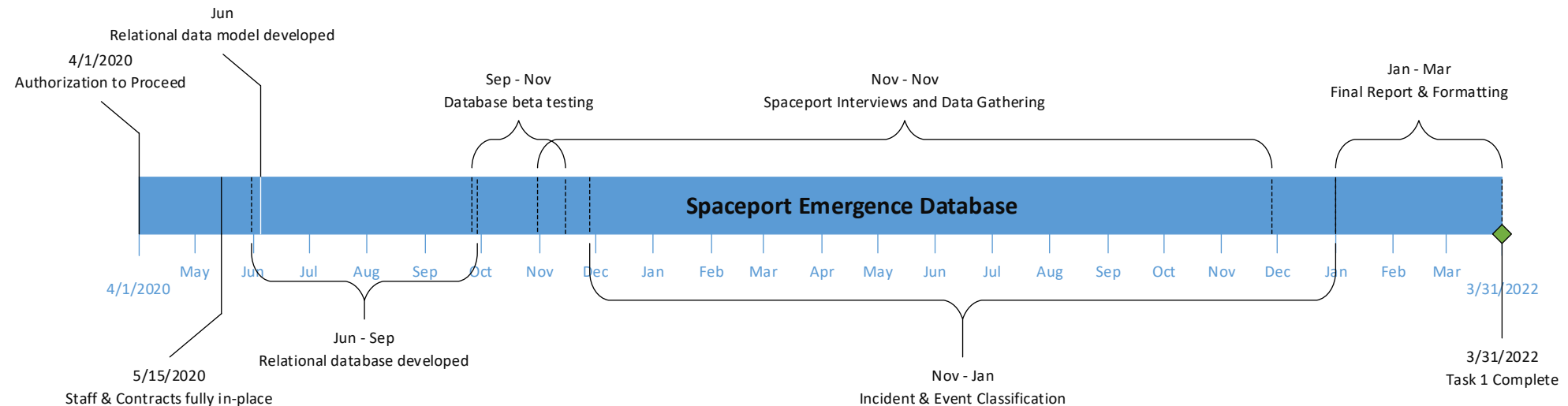
Mark J. Greby, P.E.
Las Cruces, NM
Lompoc, CA

Task Description

- Task 1: Develop a searchable database of spaceport emergence incidents and events for ongoing FAA research
  - Include the searchable database in the Spaceport Body of Knowledge (BoK) for public use
  - Add this database and tools to the BoK as Category 13

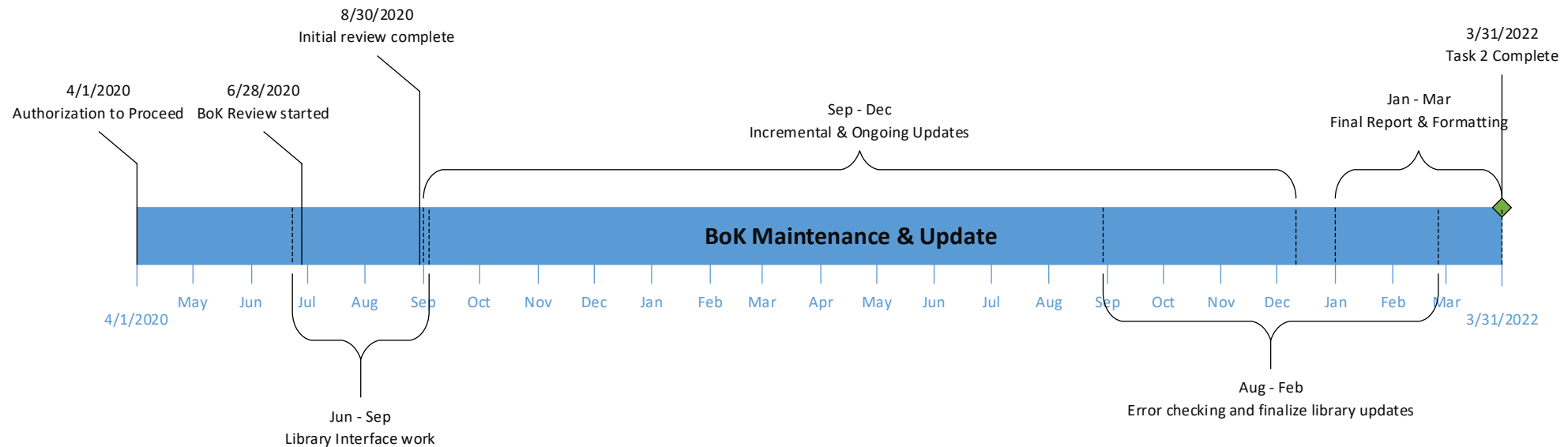- Task 2: Maintain access to an updated online Spaceport Body of Knowledge for public use: http://contentdm.nmsu.edu/

Schedule

- All work tasks completed by end the 2021. All closeouts, reports, and invoicing completed NLT end of March 2022
- Task 1: Spaceport Emergence database for FAA research

Schedule (continued)

- Task 2: Update and maintenance of the Spaceport Body of Knowledge

8/30/2020
Initial review complete

3/31/2022
Task 2 Complete

4/1/2020
Authorization to Proceed

6/28/2020
BoK Review started

Sep - Dec
Incremental & Ongoing Updates

Jan - Mar
Final Report & Formatting

BoK Maintenance & Update

4/1/2020

May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar Apr May Jun Jul Aug Sep Oct Nov Dec Jan Feb Mar

3/31/2022

Jun - Sep
Library Interface work

Aug - Feb
Error checking and finalize library updates

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Goals

Task 1 – Spaceport Emergence Database

- Create a searchable relational database:

- Through interviews document significant events leading to the establishment of the 12 licensed spaceport FAA.

- Enables government, industry and academia to investigate significant events related to start-up/emergence, safety and operations of FAA licensed spaceports
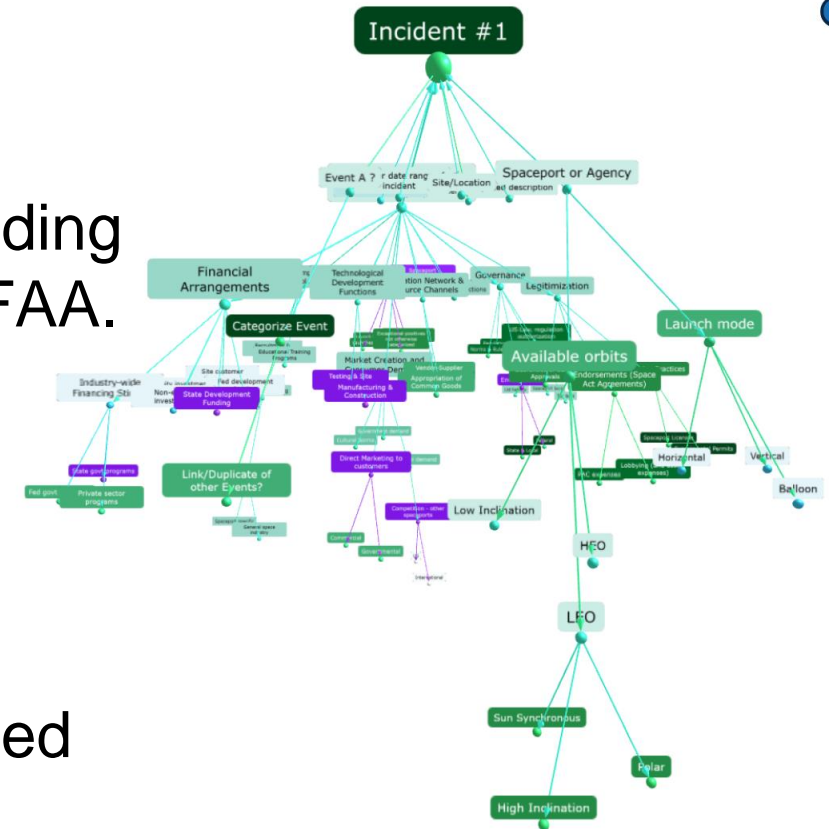
Each incident has a complex set of relational characteristics

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BOK Update and Benefits

Task 2 – Spaceport Body of Knowledge (BOK)

- Update & Maintenance

  - 229,984 document opens in the BoK: 3.1.2014 – 9.30.2020

    - 29,709 document opens in 2020 as of 9.20.2020
    - Average of 100 documents opened daily
    - http://contentdm.nmsu.edu/
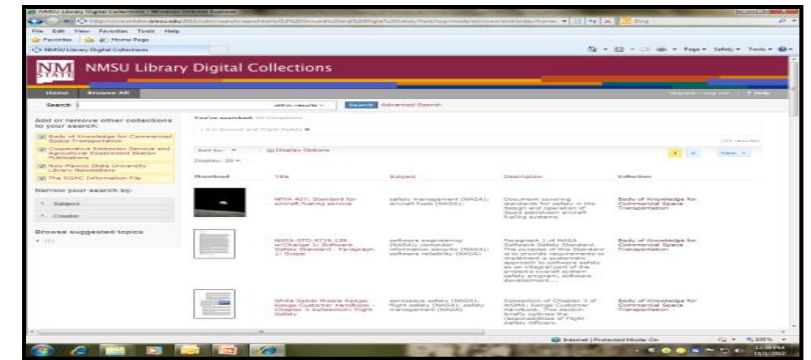
Benefits:

- A comprehensive searchable repository of commercial spaceport information
- Low-cost ongoing website maintenance by the COE research team and NMSU Library that enable growing consistent services for users
- Available 24/7/365
- Has become a vital tool for industry users, educators and internationals

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Results

- Database developed and tested

- "Incident" input forms have been developed and tested
- Database query functions tested and de-bugged
- Initial review of current BoK completed and areas needing updating have been identified
- NMSU library confirmed the ability to archive the interviews and database. Confirmed the ability to add the database to the BoK

Publications, Presentations, Awards, & Recognitions

PUBLICATIONS – None at this time

PRESENTATIONS – None at this time

AWARDS – None at this time

RECOGNITIONS – None at this time

Conclusions and Future Work

- Final Remarks

- Acknowledgement of Dr. Davidian's contribution to the development work on spaceport emergence.

- Next Steps
  - Complete interviews and population of incidents in the Spaceport Emergence Database
  - Update the identified areas in the Spaceport Body of Knowledge
  - Add new documents and references to the Body of Knowledge

Attachments:

• Incident Characterization map
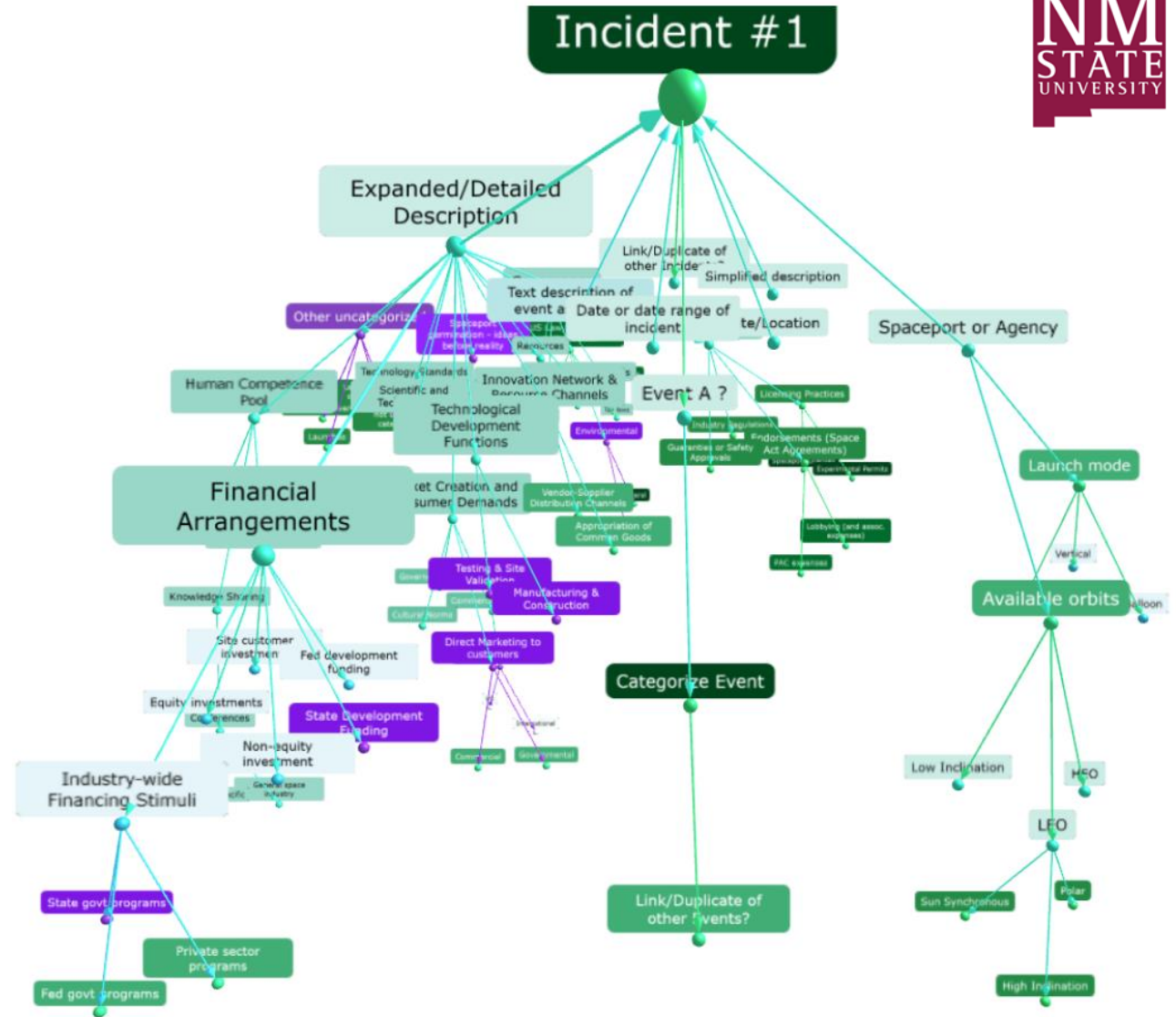
Attachments:

- Sample Incident Description Form

Attachments:

- Sample Categorization Form

Attachments:

- Sample Incident Search Query Form

Contact Information

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