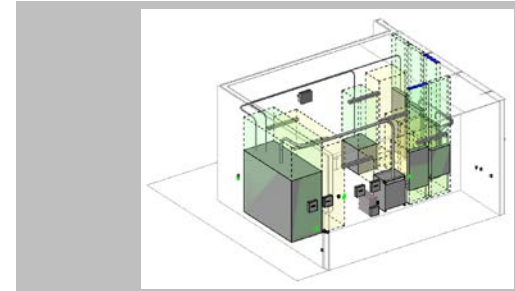
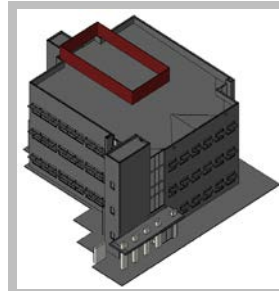


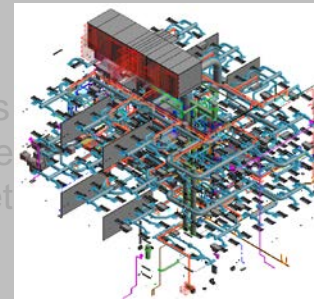
# SNL Facilities Organization BIM Program

Update 2015

*Exceptional service  
in the national interest*



Photos  
with e  
bet



l position  
e space  
leader



# Topics

Focus for 2015 was to take concepts and develop them into Process.

Development of BIM Standards

Development of Model Progression Meetings & Management

Development of Projects Revision Management

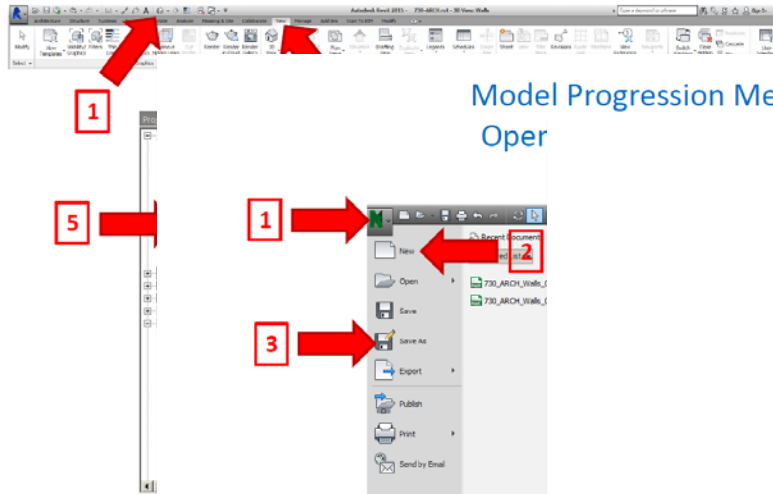
Development of SNL Facilities BIM Revit Files Template

Include 3D Scanning into the As-built Process



# Model Progression Meetings

## Model Progression Meeting Creating Views



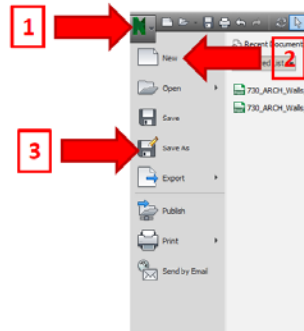
### Step 1:

1. In Revit, on the top menu bar
2. On the top menu bar
3. In "View" menu bar,
4. Select "Project Browser"
5. In the "Project Browser"
6. Select the copied view

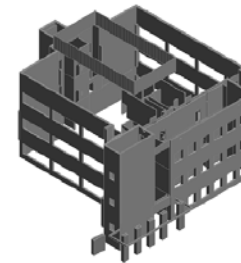
### Step 6:

1. In Navisworks, on the top down menu.
2. Select New to create a new document.
3. Select Save As to save project.
4. Filename: "Project#\_AE\_Test\_052015"
5. Select Open. Navigate to

## Model Progression Meeting Open



## Model Progression Meeting Export Revit Views to Navisworks

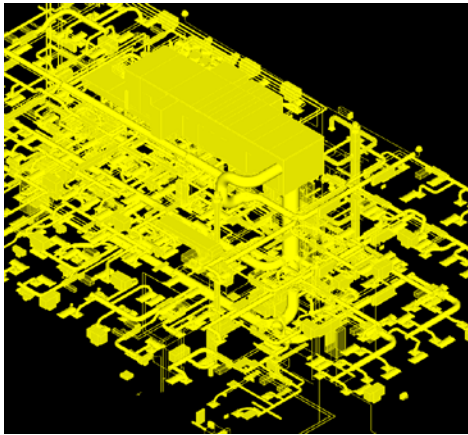


Isolated view of the "Walls"

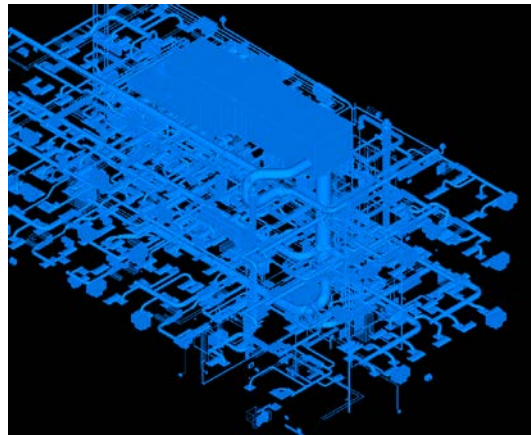
### Step 4:

- Refer to pages 2-4, repeat steps 1-3, all steps. Create an isolated view for all systems listed below.
  - Windows.
  - Doors.
  - Ceilings.
  - Structural.
  - Floors.
  - Roof.
  - Electrical Power.
  - Electrical Lighting.
  - Mechanical HVAC.
  - Plumbing.
  - Process Piping.
  - Special Systems.
  - Security.
  - Telecommunications.
  - Furniture.

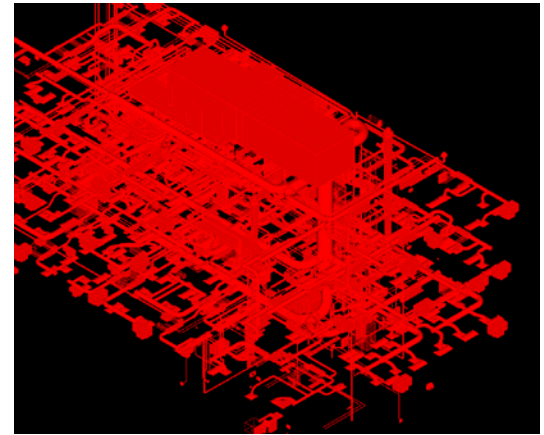
# Model Progression Management



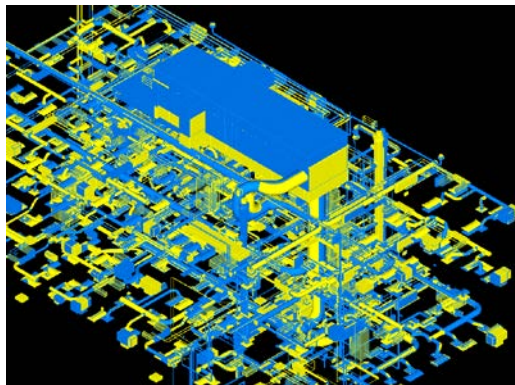
60% Review



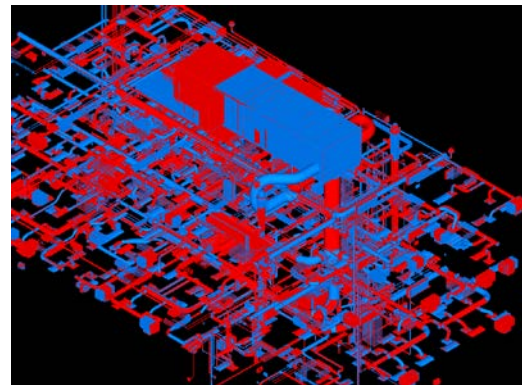
90% Review



100% Final



60 & 90% Review



90% & Final

# Projects Revision Management

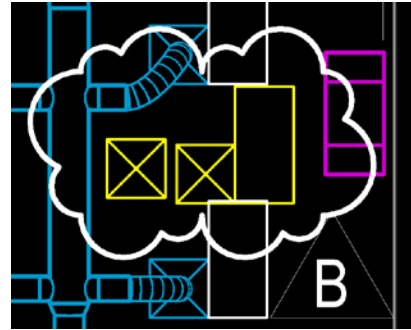
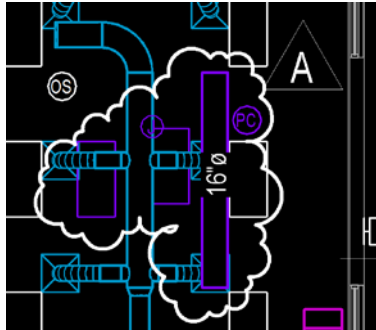
Modify Schedule/Quantities				
<ISNL REVISIONS MODEL>				
A	B	C	D	E
REV	Type	Category	Family	Family and Type
REV A	277VAC	Lighting Devices	Ceiling Photocell	Ceiling Photocell
REV A	Motor	Electrical Fixtures	JBox - Floating	JBox - Floating:
REV A	Tees	Ducts	Round Duct	Round Duct: Tee
REV A	A2	Lighting Fixtures	A2	A2: A2
REV A	A2	Lighting Fixtures	A2	A2: A2
REV A	A2	Lighting Fixtures	A2	A2: A2
REV B	24x24 - 10 Nec	Air Terminals	Supply Diffuser	Supply Diffuser
REV B	24x24 - 10 Nec	Air Terminals	Supply Diffuser	Supply Diffuser

## Element Revision Schedule

Modify Schedule/Quantities									
<ISNL REVISION SHEET INFO>									
A	B	C	D	E	F	G	H	I	
SHEET NUMBER	REV	DATE	DESCRIPTION	ISSUED?	P.O. NUMBER	CKD	DWN	AREA	
MH1101	A	08/15	LAB MODS	No	987654	ZZZ	XXX	AREA 1	
EL1101	B	03/16	ADDITION	No	321092	TTT	SSS	AREA 1	
CFP1010A	B	03/16	ADDITION	No	321092	CCC	AAA	Overall	

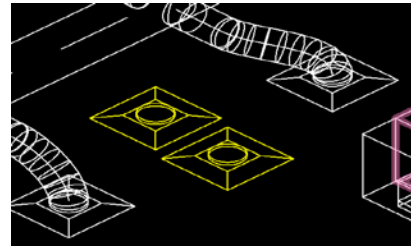
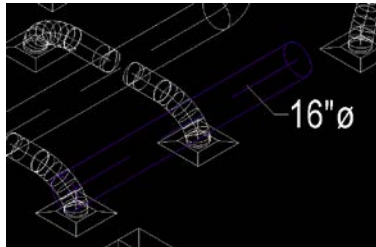
## Sheet Revision Schedule

# Projects Revision Management



987654	A	08/15	LAB MODS	SSS	UUU	
321092	B	03/16	ADDITION	AAA	CCC	
PROJECT NO.	REV	DATE	DESCRIPTION	DWN	CKD	APP
U. S. DEPARTMENT OF ENERGY						
NNSA/SANDIA SITE OFFICE			ALBUQUERQUE, NEW MEXICO			
SANDIA NATIONAL LABORATORIES						

SNL Facilities Revision Block



987654	A	08/15	LAB MODS	SSS	UUU	
321092	B	03/16	ADDITION	AAA	CCC	
PROJECT NO.	REV	DATE	DESCRIPTION	DWN	CKD	APP
U. S. DEPARTMENT OF ENERGY						
NNSA/SANDIA SITE OFFICE			ALBUQUERQUE, NEW MEXICO			
SANDIA NATIONAL LABORATORIES						
COORDINATION FIRST FLOOR PLAN				P.O.	1574255	
90% SUBMITTAL FOR REVIEW ONLY 				PROJECT NO.	184061	
				DRAWN BY	Author	
				CHECKED BY	Checker	
SANDIA NATIONAL LABS BUILDING 756 IGPP				SNL ENGR		
DISCP.		SUB-DISCP.		BUILDING 756		
			DATE	08/04/2015		
			OLD FILENAME:	SIZE	DRAWING NO.	SEQ.
FILENAME:			D+	756CFP1010A		

SNL Facilities Title Block

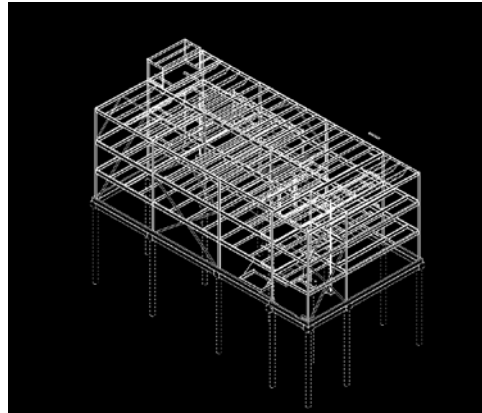
Revision A

Revision B

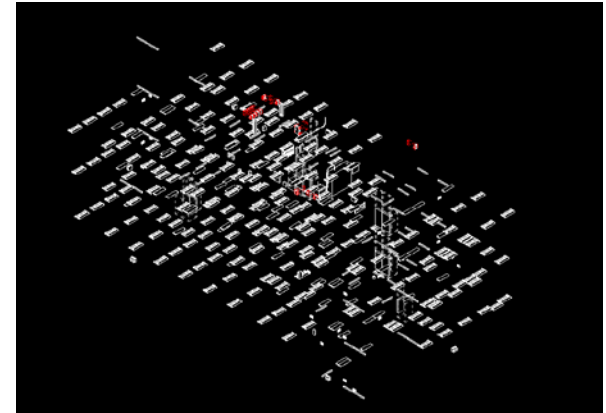
# SNL Facilities BIM Revit Template

Project Browser -

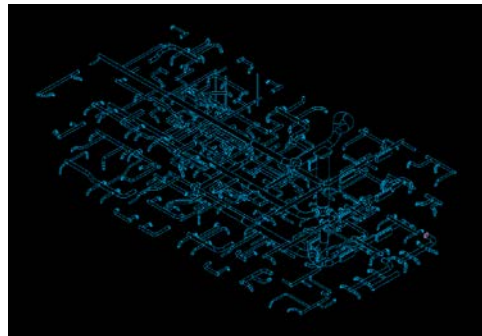
- Views (SNL View Organization)
  - Architectural
  - Coordination
    - ISNL REVISION
      - 3D Views
        - ELECTRICAL - REVS
        - MECHANICAL - REVS
    - [CO] Collision Design
    - [CO] Collision RCP Design
    - [COLL] 3D
      - 3D Views
        - (3D) 1\_ARCH
        - (3D) 2\_STRUC
        - (3D) 3\_MECH
        - (3D) 3\_MECH DIFF
        - (3D) 3\_MECH EQUIP
        - (3D) 3\_MECH PIPING
        - (3D) 3\_MECH RETURN
        - (3D) 3\_MECH SUPPLY
        - (3D) 4\_PLMB
        - (3D) 5\_ELEC
        - (3D) 6\_TELECOMM
    - [RB] Revit-BIM RCP Design
    - [RB] Revit-BIM Sheets
    - [REVBIM] Revit-BIM 3D
    - [REVBIM] Revit-BIM Elevs
  - Electrical
  - Mechanical
  - Plumbing



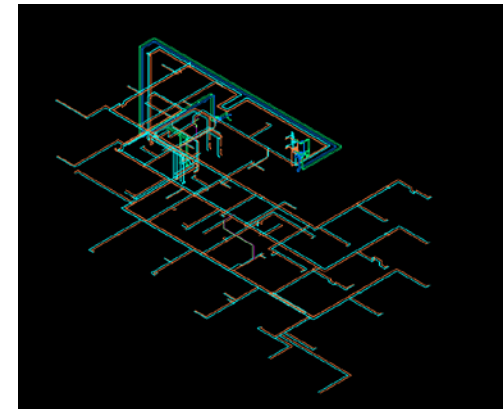
Structure



Electrical



Mech. HVAC

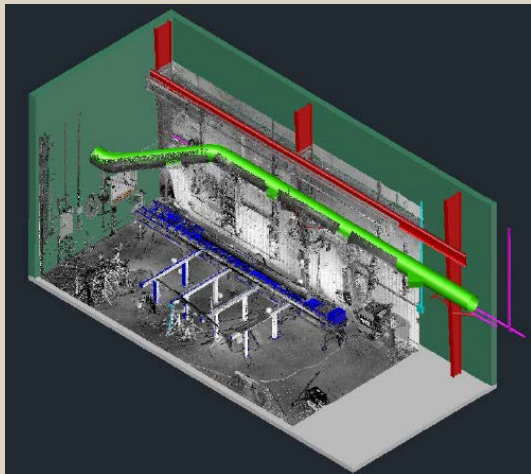


Mech. Piping

# 3D Laser Scanning As-built Process



FARO 3D Laser Scanner



Combined Point Cloud and BIM

