SFO

San Francisco International Airport

Noise 101

Noise Exposure Map

June 2013

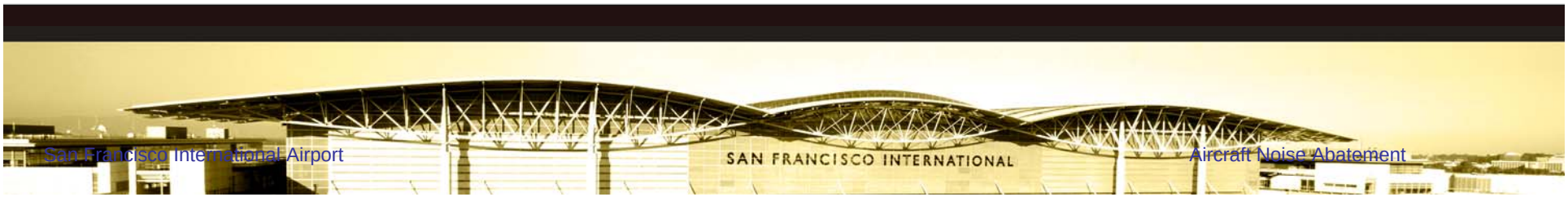
San Francisco International Airport

Federal and State Requirements

Airports must comply with both state and federal regulations regarding noise impacts

See how they are inter-related

How federal programs can assist in meeting state requirements



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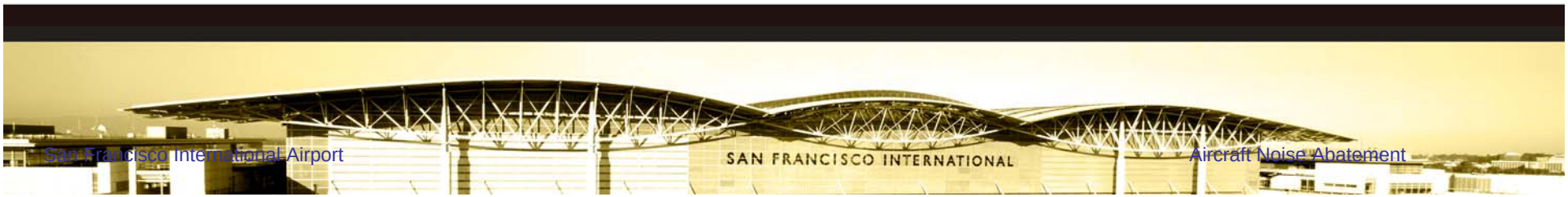
What is a Noise Exposure Map?

A map of the airport and vicinity that shows areas of average noise exposure



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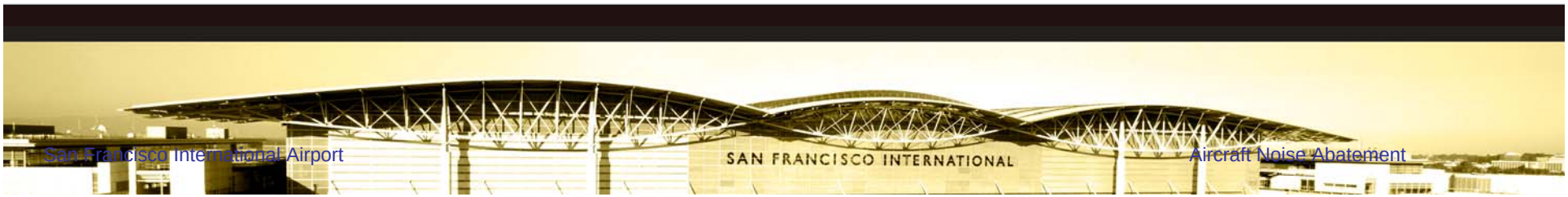
What is the purpose of an NEM?

- Used to define areas of incompatible land use
- Identifies areas where incompatible land uses can be mitigated
- Identifies area eligible for federal funding of mitigation



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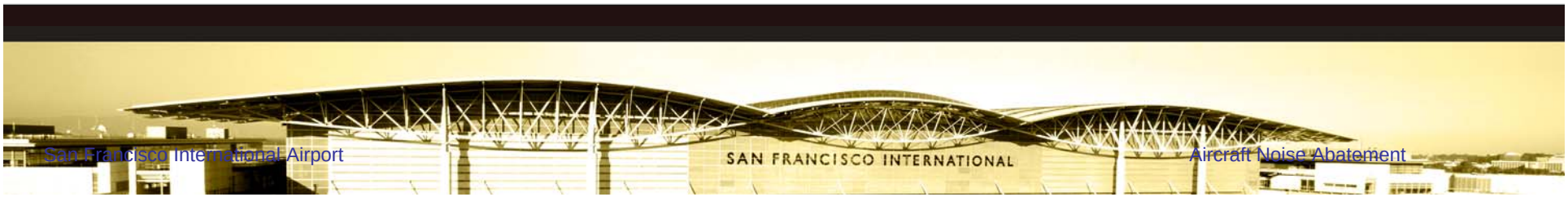
This is about the "Federal Map" getting the money for insulation

- Airports are expected to update their NEM every five years or upon significant (1.5 dB) change to the noise contour.
- The NEM is used for findings
- Complicated approval process - It can take multiple years to complete all items required for acceptance
- SFO's 2001 NEM was larger than the 1995 NEM
  - This was due to wrong assumptions used in planning
  - Caused an overestimate of the noise reductions
  - This underrepresentation caused 1,261 homes to be added



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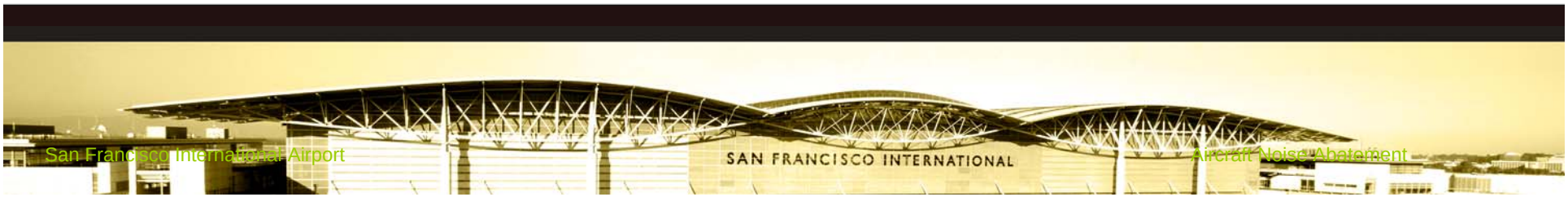
Relationship Between the Federal and State NEMs

- **Both are generated with INM.**
- **The Federal NEM is static until it is "updated and accepted."**
- **Homes, schools, churches, and nursing homes covered under 80/20 program.**
- **The State of California Quarterly NEM is dynamic - changing quarterly.**
- **The airport proprietor is obligated to mitigate or obtain a variance until it is able to show zero impact.**



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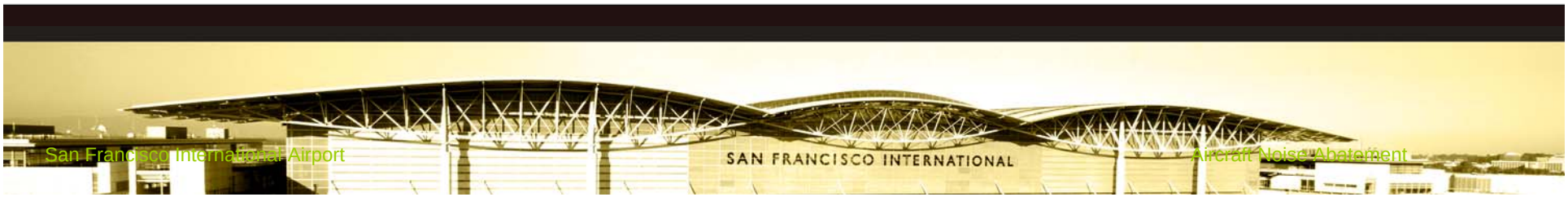
Average Noise Exposure

- Need to quantify noise exposure
- FAA's Integrated Noise Model - INM
  - Primary Method used for describing noise exposure in a community
  - Averages noise exposure over a period of one year



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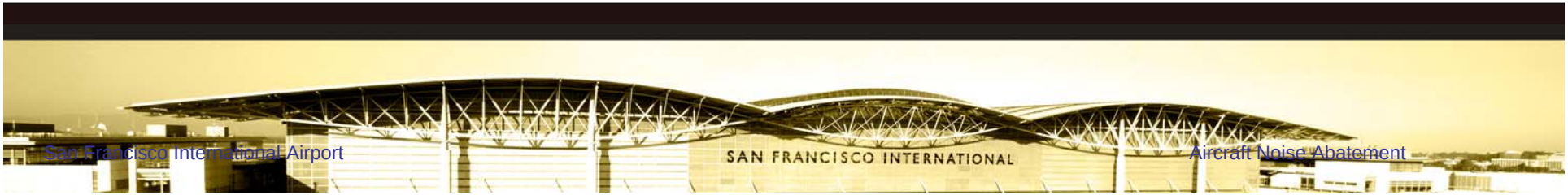
Community Noise Equivalent Level (CNEL)

- CNEL (or DNL) are ideal for describing an "average" day in decibels.
- Used in describing "average" annual noise levels in decibels.
- CNEL does not describe single event noise
- Required by FAR Part 150 to measure the exposure of individuals to noise from the operation of an airport.
- Is an enhancement over Equivalent Sound Level Leq in that it adds a off hours penalty
  - 7:00 p.m. – 10:00 p.m. a 3 dB penalty is added
  - 10:00 p.m. – 7:00 a.m. a 10 dB penalty is added
- CNEL is used in creating CNEL Noise Contours



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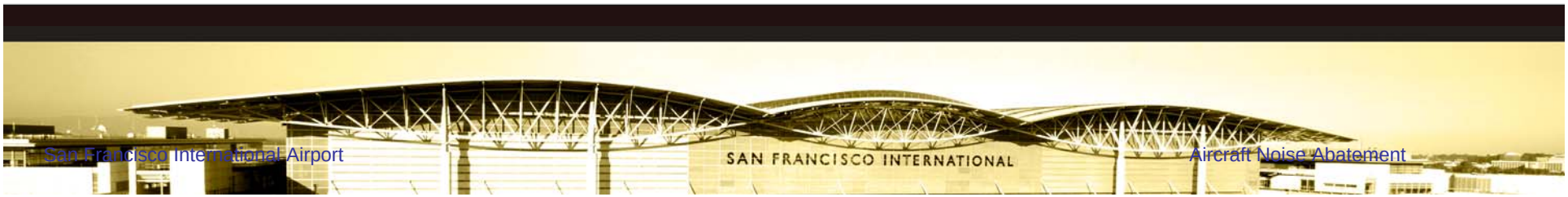
The NEM incorporates the 65 CNEL Contour

- **Community Noise Exposure Level (CNEL) is a line encompassing average noise exposure.**
- **The contour enclosing 65 dB and louder has been designated as the noise impact area.**
- **Some land uses are incompatible with the airport**



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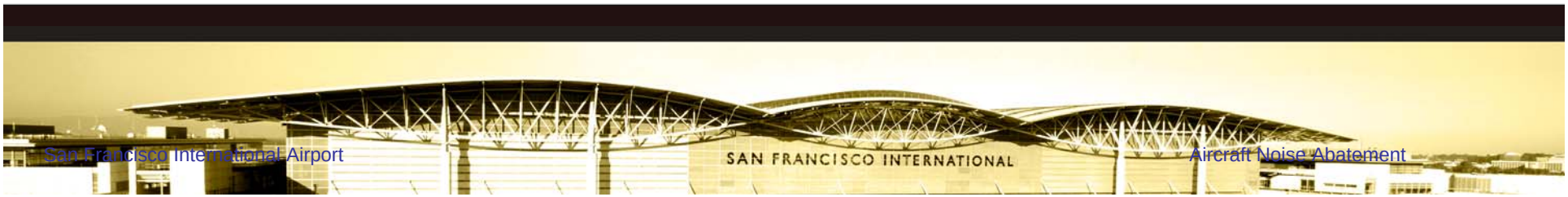
What is "incompatible"?

- **Any residential, school, place of worship, or nursing home within the 65 dB CNEL noise contour.**
- **The goal is to make them compatible through mitigation.**



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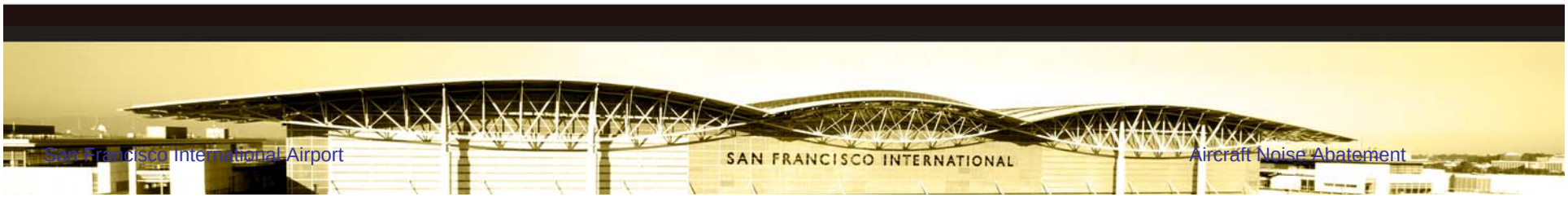
What does it mean to me?

- **In order to comply with State regulations, SFO established a Sound Insulation program to provide the needed mitigation.**
- **The program was originally managed by the cities.**
- **The program uses Federal Grants and Airport funds to accomplish the insulation.**
- **Homes within the green contour have been contacted by your city and/or the Airport regarding insulation.**



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Summary:

The 2001 NEM identifies areas of incompatible land uses where federal funds may be used to expedite insulation programs required by the state.