No. 73419-4
THE SUPREME COURT OF WASHINGTON

PORT OF SEATTLE, a port district of the State of Washington,
Petitioner,
v.
THE POLLUTION CONTROL HEARINGS BOARD, an agency of the State of Washington,
Respondent,

AIRPORT COMMUNITIES COALITION; and CITIZENS AGAINST SEA-TAC EXPANSION,
Petitioners,
v.
STATE OF WASHINGTON, DEPARTMENT OF ECOLOGY, an agency of the State of Washington,
Petitioner.

DECLARATION OF DR. STEPHEN L. M. HOCKADAY IN SUPPORT OF RESPONDENT/CROSS-PETITIONER AIRPORT COMMUNITIES COALITION'S REPLY IN SUPPORT OF ITS EMERGENCY MOTION FOR INJUNCTIVE RELIEF PURSUANT TO RAP 8.3

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Coalition

Dr. Stephen L. M. Hockaday declares as follows:

1. I am over the age of 18, am competent to testify, and have personal knowledge of the facts stated herein.

2. As reflected in my curriculum vita which is attached to this Declaration, I have more than 25 years of experience in airport and airspace planning, design, and operations for government, industry and universities. I am a registered professional civil engineer and environmental engineer. At California Polytechnic State University, San Luis Obispo (Cal Poly), I am a Professor Emeritus in the Civil and Environmental Engineering Department, where I teach airport planning and design and other transportation engineering classes. I also teach courses on airport planning and design and airport operational management at Massey University.

3. For four years, I worked for the airspace and navigation division of Eurocontrol, an international organization with 30 member countries that assists in the operation and development of the airport and airspace infrastructure in Europe. I was Head of Eurocontrol's airspace and airport modelling service, with responsibility for development and application of innovative real-time and fast-time simulation models in support of European airport and airspace system development.

4. I was project manager for a five year FAA airport improvement program which examined and recommended major development programs to improve the efficiency of operations at the nation's ten busiest airports, including revisions to air traffic control procedures. The program resulted in significant delay reductions and operating cost savings at San Francisco International Airport, Dallas Fort Worth Regional Airport, John F. Kennedy International Airport and LaGuardia Airport (New York), William B. Hartsfield Atlanta International Airport, O'Hare International Airport (Chicago), Stapleton International Airport (Denver), Lambert St. Louis International Airport, Miami International Airport, and Los Angeles International Airport.

5. In another major project for the Federal Aviation Administration, I was technical manager for the development of procedures to determine airport capacity and delay. This project resulted in an airfield capacity handbook and mathematical models of airfield operations. The handbook and models were published by the FAA as an Advisory Circular which contains FAA approved airfield analysis techniques. As part of this work, I collected operational data from ATCT observations at airports including Santa Monica Airport, San Francisco International Airport, and Los Angeles International Airport.

6. I also acted as project manager for an Air Force Communications Command project to develop new control procedures to improve air traffic control procedures in Europe and Asia. This project involved the use of a combination of live field tests using F-16 and other aircraft and computer modeling to demonstrate the feasibility of reduced separations between aircraft. The project included the development and documentation of pilot and controller procedure handbooks and training syllabuses, and coordination of ATC procedures with the command control function in a wartime environment. The procedures have been implemented worldwide.

7. For the Denver Regional Council of Governments and the City and County of Denver, I had major technical responsibilities for elements of: (a) the Site Selection and Master Plan studies performed to identify and develop the new major air carrier airport to serve the Denver region, and (b) the Master Plan to develop the existing Stapleton International Airport. The studies involved detailed assessment of the alternative future roles of the two airports, and development of plans for their development. Plans were also developed for a new short runway for commuter aircraft operations.

8. For the Director General of Airports of the Government of Mexico, I was project manager for the development of plans for

improvements to the existing Mexico City International Airport and the development of a new airport for Mexico City.

9. I was also responsible for major technical elements of the Minnesota State Airspace Study, the Minneapolis-St. Paul International Airport Long Term Comprehensive Plan, and the Metropolitan Airports Commission Dual Track Airport Planning Process (including the site selection and airport configuration studies for the new international airport). The analyses included economic analysis and forecasting of aviation demand, capacity and delay analyses, establishment of requirements for new airport facilities, planning of airfield layout, terminal building concept, access and parking facilities, and airport land use.

10. In connection with the planning project for developing new terminal facilities at Orlando International Airport, I evaluated the potential of alternative terminal sites by analyzing geometric, land use, economic, environmental, and financial factors. I also organized and supervised a comprehensive airport data gathering program that involved passenger, vehicular traffic, and operations surveys; investigated alternative modes for airport access; and performed airfield and airspace capacity analyses.

11. For the Federal Aviation Administration, I was involved in several elements of the development of a Master Plan for Dulles

International Airport, Washington, D.C., including airfield layout, terminal building development, access and parking, and airspace analysis.

12. I was also project manager for a NASA study of ways to improve airport runway use and operation. The study included analysis of operational, physical, and technological improvements to the airport, airspace, and aircraft.

13. I am familiar with the proposed third runway for Seattle-Tacoma International Airport (Sea-Tac), and I have reviewed over the years the documents prepared by the FAA and the Port concerning the proposal, including the Master Plan Update, Environmental Impact Statements, Records of Decision, and associated technical documents. Based on that review and, in particular, on data from the Port, the FAA, and other STIA customer-related sources, I submitted a series of comment letters to the Army Corps, commencing well before the events of 9/11, pointing out the discrepancies between the data and the justifications offered for the Third Runway.

14. Since then, significant new data and information continue to become available which bear directly on the accuracy of the predictions and assumptions which are relied upon as support for a claim that a Third Runway at Sea-Tac Airport is urgently needed or needed at all.

15. The new data and information are: (i) an aviation forecast published by FAA, (ii) Sea-Tac air traffic data published by the Port itself, (iii) a Port decision to abandon the airport plan and forecast that formed the basis for the third runway plan, and (iv) new information announced by FAA and Alaska Airlines about current availability and use of technology-based flight procedures.

16. On March 13, 2003, the FAA released an air traffic forecast that confirms the obsolescence of the Third Runway FSEIS forecast and of the data and assumptions relied upon for pursuing the Third Runway. The FAA Terminal Area Forecast Summary shows that aircraft operation growth has stopped, that the old 1997 FSEIS Port passenger forecast is too high by 15% to 18%, compared with the new FAA forecast, and that the old 1997 FSEIS Port air traffic operations forecast is too high by 9% to 22%, compared with the new FAA forecast.

17. In addition, the Port's own traffic data for 2002 verifies that the 1997 FSEIS forecast is out of date and wrong. The 1997 FSEIS forecast for 2002 predicted 423,400 annual aircraft operations, which is an overestimate of more than 16% compared with the actual traffic in 2002 of 364,516 operations.

18. Sea-Tac air traffic data published by the Port for 2003 confirm the trend established in 2002 and contained in the record. The data show

that air traffic has declined rapidly and continually over the last four years and is at low levels not seen for fifteen years. The Port's traffic data show that there were 354,714 air traffic operations in 2003, a drop of more than 20% compared with the 445,677 air traffic operations in 2000. Even if air traffic immediately started to grow at the same high rates that occurred between 1988 and 2000, it would take until 2015 for traffic to recover to the levels that were experienced in 2000. The traffic data show no sign of any such growth; instead, traffic continues to decline. In fact, as of January 2004, air traffic operations at Sea-Tac were declining even more rapidly and were 22% below the levels of four years earlier.

19. New data continue to reinforce that the aviation industry is in a fragile state, undergoing a major restructuring to downsize, and that air traffic at Sea-Tac and elsewhere will not recover in the near future. For example, in a Financial Times article:

> Alan Mulally, chief executive of Boeing's commercial aircraft division, warned on Thursday that the deep recession in the civil aerospace industry could last for several more years. "The numbers are staggering," he said, "In all my 33 years at Boeing I have seen nothing like this before." ...The group has revised downwards its forecast for deliveries next year to between 275 and 285 aircraft from the 380 due to be delivered this year. Deliveries have already fallen sharply from the 527 aircraft taken by airlines last year and the 1999 peak of 620. Mr. Mulally said, in a speech to the UK Aviation Club, that deliveries in 2004 would be "about the same" as the depressed level of 2003. Boeing has been growing more pessimistic about the timing of any recovery and Mr. Mulally said: "If the world [economy] does not come back, we can be at these

> levels for a few more years also." The slowdown in the world economy and the impact of the September 11 terrorist attacks in the US had produced a "staggering change" in levels of air travel, he said. Nearly 20 per cent of the world fleet of commercial aircraft was still grounded. "We agonize," said Mr. Mulally about when economic growth and air travel would recover.

http://boeingnews.web.boeing.com/021213a_in_mulally.htm..

20. The airlines serving Sea-Tac are also being impacted adversely by the increasing costs of operating at Sea-Tac, caused by the Port's expensive aggressive expansion plans. For example, Southwest Airlines is further reducing its operations at Sea-Tac because the airport is becoming one of the most expensive in the nation.

> "... Southwest Airlines in January cut its daily flights between Seattle and Spokane from eight to five, reducing its overall daily flights through Sea-Tac to 36. According to Southwest manager of properties Amy Weaver, the move was largely due to the airport's rising per-passenger costs for carriers.
>
> "We're still assessing the situation," said Weaver, who manages Southwest properties at Sea-Tac and nine other airports in the West and Midwest. "With high costs, it's very difficult to justify some of our shorter-haul flights. We have to decide what that means to us."
>
> Gina Marie Lindsey, director of the Port of Seattle's aviation division, said a "perfect storm" of plunging airline revenues and volumes after the Sept. 11 terrorist attacks, and increased costs from the terminal projects, combined to increase the pricing pressures on the airlines that serve the airport.
>
> Airlines operating a smaller volume of flights are having to shoulder the increased costs, at a time when most carriers already are hemorrhaging money.

> The airport's costs per passenger, nearly all of which is paid by the airlines, is expected to climb to $13.50 by 2005, nearly twice what it was in 2000, according to port figures. The airport's annual operating budget, (which includes bond payments to pay for the improvements) will climb from $130 million to $153 million during the same time period.
>
> ...With the Sept. 11 attacks that need abruptly evaporated, but the projects were by then irreversibly under way.
>
> "The tough spot that Sea-Tac has been in, is that our large capital program was a ship that already had sailed," Lindsey said...
>
> Lindsey acknowledged the airport has become expensive for carriers, adding she expects the costs to carriers will continue to climb until 2009, when she hopes the proposed third runway will be complete... "
>
> *Puget Sound Business Journal (Seattle) March 5, 2004*

21. The lack of need for a third runway is reinforced by U.S. Department of Transportation Secretary Norman Mineta's recent statement that business travel will never recover from its recent slump.

> "Mineta: Business travel won't hit pre-9-11 level
>
> "Transportation Secretary Norman Mineta doesn't expect U.S. business travel to return to pre-Sept. 11 levels and said major carriers coping with a downturn shouldn't expect a government bailout. Businesses that cut back after the 9-11 attacks found video and telephone conferences more economical than flying and have resisted high walk-up fares on major network carriers.
> "Business is not traveling as much, and also they are getting siphoned off" by low-fare carriers, Mineta said. "There will be business travel, it will be returning, but is it going to be coming back to the legacy carriers who have always been the traditional carriers for business? I don't think so. They may get back 65 percent."

> Mineta's comments are consistent with airline executives and analysts who say they haven't seen a rebound in corporate travel after the attacks. Major U.S. carriers, which lost $20 billion since the attacks, historically counted on business travelers for the most revenue.
> Business travel spending will remain the same or decline at 73 percent of North American companies, the Business Travel Coalition said in October. The coalition represents travel purchasers at 51 companies, including Black & Decker, Procter & Gamble and DaimlerChrysler. "

Seattle Times, Business & Technology: Thursday, January 29, 2004

22. The lower FAA air traffic forecast, the lower Port air traffic data, and the higher costs and lower business demand are each causing the arrival demand (the number of aircraft wanting to land) in poor weather to be significantly less now, and significantly less in the future, than was forecast in the FSEIS. As a result, any need for a third runway is correspondingly minimized and any delays to aircraft in poor weather that were estimated in the FSEIS and used to justify a third runway are also minimized. For example, FSEIS Exhibit 2-2 on page 2-9 shows that 10% to 20% reductions in demand would produce 50% to 75% reductions in delay, ensuring that delays would be significantly reduced and maintained at acceptable levels. These 20% or more reductions in demand have already occurred at Sea-Tac.

23. The Port Commission stated on December 19, 2002, that it was no longer able to produce a multi-year forecast because of key challenges

including evolving passenger travel trends, more stringent operating requirements (especially for security), and decreased ability of airlines to fund airport improvements. Instead, the Port decided to expand existing facilities or construct new facilities only as demand warranted based on growth reaching key trigger points. The Port decided to monitor passenger, cargo, and aircraft operations activity and characteristics closely and prepare estimates of future demand yearly.

24. FAA and the airlines have now made available and are working to implement new technologies that allow the Third Runway project purpose and need to be met without a third runway. These will allow two arrival streams to the existing runways for 90% of the year (and more than 95% of the time in the summer peak, using the standard FAA definition of poor weather). FAA had previously stated (FAA August 8, 2001 ROD at A9) that it plans to implement a Localizer Directional Aid (LDA) approach to provide two arrival streams in some poor weather conditions if a third runway was not constructed.

25. New information shows that Alaska Airlines, FAA, and others are already implementing additional technologies and procedures that will allow two arrival streams to the existing Sea-Tac runways at lower minimums and during more poor weather conditions. Alaska Airlines itself has reported that it has now successfully flown instrument

approaches that allow aircraft to land on a closely spaced parallel runway in poor weather conditions (*see http://www.komo4.com/stories/23044.htm* and *http://www.alaskasworld.com/newsroom/asnews/ASstories/AS_20030128_114649.asp*).

26. The FAA's commitment to implementing these technological improvements at Sea-Tac and elsewhere was emphasized by FAA Administrator Marion Blakey in remarks delivered to the American Institute of Aeronautics and Astronautics. *FAA: http://www2.faa.gov/index.cfm/apa/1223/34211E57-2063-46E0-93D6D9289433436A*).

27. At San Francisco, where Alaska has already demonstrated the technology, the parallel runways at San Francisco are closer to each other than the existing runways at Sea-Tac. As a result, the technology and procedures can be applied at Sea-Tac rapidly following approval at San Francisco.

28. The combination of the FAA-defined LDA approach for Sea-Tac, the Alaska Airlines-FAA approaches successfully implemented at San Francisco, and the new FAA Order will allow two arrival streams to the existing Sea-Tac runways in a variety of poor weather conditions. These newly proven available technology and procedures provide the

capacity and delay reduction benefits to meet the project purpose and need without a third runway and at a fraction of the cost to the public and little or no impact on the environment protected by the Clean Water Act.

29. The publication of a May 29, 2003, FAA order confirms that these new technology and procedures would be available at Sea-Tac to permit two approach streams to the existing two runways during significant proportions of poor weather conditions.

30. The new data described above, which were produced largely by the entities that have been supporting construction of a third runway, directly contradict the claim that construction of a Third Runway is urgently needed -- or needed at all -- at Sea-Tac Airport.

I declare under penalty of perjury under the laws of the State of Washington that the foregoing is true and correct.

DATED this 9th day of April, 2004, at Port Hadlock Washington.

Dr. Stephen L. M. Hockaday

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Dr. Stephen L. M. Hockaday

Professor	Civil and Environmental Engineering, Cal Poly University, San Luis Obispo
B.Sc. (Eng)	University of London, Civil Engineering, First Class Honours
M.S.	University of California, Berkeley, Transportation Engineering
Ph. D.	University of California, Berkeley, Transportation Engineering
C. Eng	Chartered Engineer, Great Britain,
P.E.	Registered Professional Engineer, California (Traffic)
P.E.	Registered Professional Engineer, Oregon (Civil and Environmental)
Fellow	American Society of Civil Engineers
Member	Institute of Professional Engineers, New Zealand
Member	Institute of Transportation Engineers, United States of America
Member	Institution of Civil Engineers, Great Britain
Member	American Association for Artificial Intelligence

Dr. Hockaday has more than 25 years of experience in many aspects of air and ground transportation research, planning, design, and operations for government, industry and universities.

Dr. Hockaday is a Professor in the Civil and Environmental Engineering Department at California Polytechnic State University, San Luis Obispo (Cal Poly); where his responsibilities include teaching and research in air and ground transportation. He is also Director of the College of Engineering Applied Research and Development Facility. He is currently conducting air traffic management research for NASA, focusing on the need for co-ordination between airport arrival and departure runway management functions.

For four years, he was on leave from Cal Poly and worked for Eurocontrol, an international organisation with 28 member countries that assists in the development and harmonisation of the airport and airspace infrastructure in Europe. Dr. Hockaday was Head of Eurocontrol's airspace and airport modelling service, where his responsibilities included development and application of innovative real-time and fast-time simulation models in support of European airport and airspace system development. Among his responsibilities were the Brussels International Airport capacity study and the free routes airspace programme for northern Europe.

Dr. Hockaday has extensive practical experience in the field of airport and airspace planning and design, as an individual consultant, as manager of an airport planning group for a major U.S. consulting firm, and for Eurocontrol.

His technical areas of responsibility have included:

Air Traffic Management

EXHIBIT A

Airspace Planning and Design
Airspace Route Network Development
Controller Workload and Sector Capacity Assessment
Area Navigation System Impact Studies
Airborne Collision Risk Assessment
Air Route Charge Calculation
Air Traffic Central Flow Management
Airport Site Selection Studies
Airport Systems Planning
Airport Access and Parking
Airport Land Use and Master Plans
Airfield and Airspace Capacity and Layout Plans
Passenger Terminal Area Plans
Aviation Safety Analysis
Environmental Assessment and Impact Studies

Representative Projects

Dr. Hockaday was project manager for the planning phase of the Eurocontrol 8-States Free Route Airspace Project. In this role he has managed development of the operational concept, flight planning and controller decision-aid system support, and project development activities for free route airspace implementation in Belgium, Denmark, Finland, Germany, Luxembourg, Netherlands, Norway, and Sweden. The project is expected to eventually extend to the upper airspace of 28 European countries, and to provide direct or other user-preferred routes to aircraft operators in these countries.

Dr. Hockaday was project manager for a five year FAA airport improvement program which examined and recommended major development programs to improve the efficiency of operations at the nation's ten busiest airports, including revisions to air traffic control procedures. The program resulted in significant delay reductions and operating cost savings at San Francisco International Airport, Dallas Fort Worth Regional Airport, John F. Kennedy International Airport and LaGuardia Airport (New York), William B. Hartsfield Atlanta International Airport, O'Hare International Airport (Chicago), Stapleton International Airport (Denver), Lambert St. Louis International Airport, Miami International Airport, and Los Angeles International Airport.

In a major project for the Federal Aviation Administration, Dr. Hockaday was technical manager of research and development performed for the FAA in which procedures were designed to determine airport capacity and improve airfield configurations. This project resulted in an airfield capacity handbook and mathematical models of airfield operations. The handbook and models were published by the FAA as an Advisory Circular which contains FAA approved airfield analysis techniques. As part of this work, he collected operational data from ATCT observations at airports including Santa Monica Airport, San Francisco International Airport, and Los Angeles International Airport.

He acted as project manager for an Air Force Communications Command project to develop new control procedures to improve air traffic control procedures in Europe and Asia. This project

involved the use of a combination of live field tests using F-16 and other aircraft and computer modeling to demonstrate the feasibility of reduced separations between aircraft. The project included the development and documentation of pilot and controller procedure handbooks and training syllabuses, and coordination of ATC procedures with the command control function in a wartime environment. The procedures have been implemented worldwide.

Dr. Hockaday also conducted research for the US Department of Transportation and the Federal Aviation Administration concerning the potential for automation of elements of the air traffic control system, particularly with reference to the possibility of incorporating artificial intelligence techniques. As part of this activity, he investigated the feasibility of incorporating expert systems into the FAA national air traffic central flow control facility. He also chaired a NASA/FAA workshop on the use of artificial intelligence in air traffic control.

For the US Navy, Dr. Hockaday participated in a study to update the naval aviation system plan for the helicopter and fixed-wing aircraft bases that provide basic aircrew training for all Navy pilots.

For the Federal Aviation Administration, Dr. Hockaday conducted an assessment of the avionics capabilities of the rotorcraft fleet, and their impact on the demand for instrument operations by helicopters.

For the Denver Regional Council of Governments and the City and County of Denver, Dr. Hockaday had major technical responsibilities for elements of (a) the Site Selection and Master Plan studies performed to identify and develop the new major air carrier airport to serve the Denver region, and (b) the Master Plan to develop the existing Stapleton International Airport. The studies involved detailed assessment of the alternative future roles of the two airports, and development of plans for their development. Plans were also developed for a new short runway for commuter aircraft operations.

For the Director General of Airports of the Government of Mexico, Dr. Hockaday was project manager for the development of plans for improvements to the existing Mexico City International Airport and the development of a new He was also responsible for major technical elements of the Minnesota State Airspace Study, the Minneapolis-St. Paul International Airport Long Term Comprehensive Plan, and the Metropolitan Airports Commission Dual Track Airport Planning Process (including the site selection and airport configuration studies for the new international airport). airport for Mexico City. The analyses included economic analysis and forecasting of aviation demand, capacity and delay analyses, establishment of requirements for new airport facilities, planning of airfield layout, terminal building concept, access and parking facilities, and airport land use.

In connection with the planning project for developing new terminal facilities at Orlando International Airport, Dr. Hockaday evaluated the potential of alternative terminal sites by analyzing geometric, land use, economic, environmental, and financial factors. He also organized and supervised a comprehensive airport data gathering program that involved passenger, vehicular traffic, and operations surveys; investigated alternative modes for airport access, and airfield and airspace capacity analyses.

For the Federal Aviation Administration, Dr. Hockaday was involved in several elements of the development of a Master Plan for Dulles International Airport, Washington, D.C., including airfield layout, terminal building development, access and parking, and airspace analysis.

Dr. Hockaday was also project manager for a NASA study of ways to improve airport runway use and operation. The study included analysis of operational, physical, and technological improvements to the airport, airspace, and aircraft.

For the U. S. Department of Transportation, the State of Missouri, and the St. Louis Airport Authority; Dr. Hockaday had major responsibilities for elements of several studies including: an assessment of a proposed site for a major new air carrier airport and planning for the improvement of the existing Lambert St. Louis International Airport.

For NASA (National Aeronautics and Space Administration), Dr. Hockaday was responsible for a study that assessed the national impact of aircraft noise, and the benefit to be obtained from new technologies that could reduce aircraft noise at source. Analysis of aircraft and airspace operations and aircraft noise impacts at case study airports provided data for determination of national impacts; including John Wayne Orange County Airport, Minneapolis-St. Paul International Airport and Los Angeles International Airport.

He has had a wide range of responsibilities and provided consultation services at numerous airports, including those in the following communities:

United States

Anchorage	Atlanta
Boston	Charleston
Chicago	Cleveland
Dallas	Denver (DEN, DIA)
Detroit	El Paso
Honolulu	Houston
Kansas City	Los Angeles
Louisville	Memphis
Miami	Minneapolis
Monterey	Nashville
New York (JFK,LGA)	Ogden
Orange County	Orlando
Palm Beach	Pensacola
Phoenix	Philadelphia
Portland	Raleigh-Durham
Sacramento	San Francisco
Santa Fe	San Jose
Seattle	St. Louis
Tampa	Washington DC (IAD)

International

Belgium	Germany
Great Britain	Greece
Hong Kong	Japan
Malaysia	Mexico
New Zealand	Philippines

Background

Dr. Hockaday is Professor of Civil and Environmental Engineering at California Polytechnic State University, San Luis Obispo. In this position, he has conducted applied research and taught gradate and under-graduate classes in air and surface transportation. He served for six years as Chair of the Department. He was principal investigator for the construction of a new applied engineering research building for the College of Engineering, and has been successful in securing the necessary resources from the National Science Foundation, the Keck Foundation and from several industrial parties, including Lockheed-Martin and Northrop-Grumman Aerospace.

Prior to his appointment at Cal Poly University, Dr. Hockaday was an Associate Research Engineer and Lecturer at the University of California, Berkeley. In this role he was responsible for developing and conducting graduate courses in air transportation, and for performing air transportation research.

As a result of study and research at the University of California at Berkeley, he received both the M.S. and Ph.D. degrees in transportation engineering. Dr. Hockaday's thesis, supervised by Professor Robert Horonjeff, concerned a model to investigate the separation of landing aircraft with special reference to collision risk.