PARTICIPANT MEDIA

In association with World Security Institute

Presents
A Lawrence Bender Production



COUNTDOWN TO ZERO



Written and Directed by Lucy Walker

Produced by Lawrence Bender

Executive Producers

Jeff Skoll, Diane Weyermann, Bruce Blair, Matt Brown

Co-produced by Lisa Remington

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KEY CREW

MUSIC BY Peter Golub

EDITED BY Brad Fuller Brian Johnson

CINEMATOGRAPHY BY
Robert Chappell
Gary Clarke
Bryan Donnell
Nick Higgins

CO-PRODUCED BY Lisa Remington

EXECUTIVE PRODUCERS

Jeff Skoll

Diane Weyermann

Bruce Blair

Matt Brown

PRODUCED BY Lawrence Bender

WRITTEN and DIRECTED BY Lucy Walker

Running time: 90 mins approx Ratio:

COUNTDOWN TO ZERO PRODUCTION INFORMATION

"...Every man, woman and child lives under a nuclear sword of Damocles, hanging by the slenderest of threads, capable of being cut at any moment by accident or miscalculation or by madness. The weapons of war must be abolished before they abolish us..."

President John F. Kennedy
 Address before the General Assembly of the United Nations,
 New York City, September 25, 1961

During the Cold War, nothing loomed as large in the public mind as 'The Bomb'. When the Soviet Empire collapsed, the bomb became a symbol of another era. Naively we felt the danger had passed. In recent years, the threat of nuclear proliferation has grown more urgent, and the political will to eliminate nuclear weapons is greater than ever in our history.

We have now entered a second nuclear age. Nuclear weapons have proliferated to nine nations, and that number could continue to grow, as over 40 nations have the technical capacity to construct nuclear weapons. Terrorists are actively seeking nuclear weapons and fissile material, not to use as political leverage, but rather as tools of mass destruction. Equally as great a threat is human error; the possibility of an accident increases every day.

Countdown to Zero is a fascinating and frightening exploration of the dangers of nuclear weapons, exposing a variety of present day threats and featuring insights from a host of international experts and world leaders who advocate total global disarmament.

Written and directed by Lucy Walker and produced by Lawrence Bender, Countdown to Zero was co-produced by Lisa Remington and edited by Brad Fuller and Brian Johnson. The cinematographers were Gary Clarke, Robert Chappell, Bryan Donnell and Nick Higgins. The original music was composed by Peter Golub. The executive producers are Jeff Skoll and Diane Weyermann of Participant Media and Matt Brown and Bruce Blair of the World Security Institute, cofounders of Global Zero.

ABOUT THE PRODUCTION

In 2007, Matt Brown sought the advice of Lawrence Bender, the producer/activist who had been so generous in his support of this maverick Democrat in his campaign for Secretary of State of Rhode Island and subsequent run for the Senate.

Brown wanted to get Bender's opinion on the feasibility of a documentary about the modern threat of nuclear proliferation, one aspect of a concept Brown had been developing with Dr. Bruce G. Blair, founder of the World Security Institute, a ten year old non-profit organization committed to independent research and journalism on global affairs.

The time seemed right, if not overdue, for a concerted international effort to eliminate nuclear weapons, and Blair and Brown determined to devote themselves to this cause that had languished since the end of the Cold War. They had witnessed the profound effect *An Inconvenient Truth* had in rocketing public awareness of environmental concerns and effecting a palpable behavioural difference by motivating citizens and leaders of the world to take action toward a common goal.

By happy chance, Brown's former political advocate happened to be the producer of *An Inconvenient Truth*. Lawrence Bender was the beginning and end of their quest for a champion to spearhead such a hard-hitting and topical documentary. In a relatively short time, the two passionate activists in Washington, D.C. and the socially conscious Hollywood producer developed a detailed proposal that Bender took directly to Jeff Skoll and Diane Weyermann at Participant.

Participant Media is the unique independent production company that had partnered with Bender and Al Gore on *An Inconvenient Truth*. Founded five years ago by Jeff Skoll, whose early involvement with eBay enabled his current dedication to philanthropy, Participant Media makes films that are socially viable and strike a populist chord in the hope of effecting change for the good of the world and the benefit of humanity, films that are both commercially and critically successful – an altruistic goal that actually seems within reach and has certainly won awards for trying. Diane Weyermann, Executive Vice President of Documentary Films, came to Participant from the Sundance Institute having previously launched the Soros Documentary Fund and served as Director of the Open Society Institute, New York's Arts and Culture Program. Jeff Skoll, Diane Weyermann, Bruce Blair and Matt Brown share Executive Producer credit on *Countdown to Zero*.

During 2007, the team honed in on the points they wanted to make in the documentary. Their foremost concerns were articulated in an interview with Rolf Mowatt-Larssen, former CIA Operations Officer for 22 years (1983-2005):

There are three ways to acquire a nuclear weapon: You can steal a bomb, You can buy a bomb, And you can build a bomb.

Research and footage of actual events would only too eerily illustrate these realities.

They began to contact the best people to speak authoritatively on these points starting with former Presidents, Prime Ministers, Secretaries of State and Defence, physicists, generals, journalists and authors.

"We needed to get to the people who had the power to push the button," says Lawrence Bender, whose metaphorical Rolodex was deployed to recruit spokespersons on the subject of nuclear arms and proliferation. Bender and the team locked in interviews with former heads of state Mikhail Gorbachev, Tony Blair, F. W. de Klerk of South Africa (a country that has totally eliminated its nuclear arsenal), Pakistan's Pervez Musharraf and former President Jimmy Carter. That was just the beginning.

An exciting young writer-director was brought in to collaborate with the producers in creating a cohesive piece of filmmaking, one that could simultaneously educate and fascinate throughout the course of a feature-length documentary. The subject was of immediate interest to Lucy Walker, a native of London who had amassed an eclectic body of work since graduating from Oxford and winning a Fulbright Scholarship to study at the Graduate Film Program at NYU's Tisch School of the Arts. She had won acclaim for her two previous documentaries, *Devil's Playground*, a look at Amish teenagers trying to break free of their culture, and *Blindsight*, an inspiring and thought-provoking account of blind people climbing the north side of Mt. Everest in Tibet.

Lucy began by starting anew, working closely with Brennan Rees to hone research and prepare for relentlessly long days of shooting international experts, academics and states people. She lined up people for background and to appear oncamera, ultimately interviewing 84 subjects on- and 100 off-camera. Before long, Lucy, along with a shifting slate of top cinematographers, was on a global mission, her own *Countdown to Zero*.

Acknowledging the importance of archival material to the project, co-producer Lisa Remington recalls, "Thanks to our great partner WSI [World Security Institute], we had access to a 20+ year collection of nuclear-issue footage. And our archival team headed by Susan Ricketts and Andy Zare navigated the most difficult archival territory; tapping into libraries all over the world – getting footage out of the most difficult places." Working closely with the director, they ferreted out the best, most shocking archival coverage of nuclear accidents, human errors and appalling instances of the trafficking of atomic weaponry and fissile materials through the black market of the new ex-Russian state of Georgia and into the Middle East.

Remington is also quick to credit the contributions of the film's editors, Brad Fuller and Brian Johnson. She says, "We couldn't have had a better and more perfect editing team. With the wealth of interview and archival material, this film was an incredible challenge, and, with Lucy, they've done a splendid job of creating a compelling story."

With Lucy in the field on what was to be a 14 month odyssey, Lawrence Bender was in production on his latest film with Quentin Tarantino, *Inglourious Basterds*, but that did not deter him from joining Lucy for interviews he had personally arranged. Bender's most protracted negotiations had to do with filming in Pakistan: "Representatives of President Musharraf and I had been working through all of the red tape. We were finally all set to go when Musharraf was ousted. All of our arrangements had been made. It was assumed we would stay at the Marriott in Islamabad, as most Westerners do, but our local Pakistani 'fixer' urged us to change to a hotel less likely to be a target. Six weeks later a suicide bomber drove into the Islamabad Marriott and blew it up." Bender never did make it to Pakistan, and Lucy was temporarily stranded in Dubai with her cinematographer. She did manage to interview former President Musharraf in London a year later.

As Executive Producers, Bruce Blair and Matt Brown provided a wealth of knowledge and insight into the scientific community as well as contacts with authors and journalists who were experts in the field of nuclear proliferation, political brinksmanship and the terrorist threat all too present in today's world. Blair and Brown were also formulating plans for Global Zero, a multi-tiered international campaign to eliminate nuclear weapons by enlisting international leaders who would commit themselves to working for a future free of nuclear weapons.

GLOBAL ZERO

Global Zero was formally launched in Paris in December 2008, when 100 world leaders gathered to announce "a framework for the phased, verified elimination of nuclear weapons, starting with deep reductions to the U.S. and Russian arsenals. Global Zero then gave letters to Presidents Obama and Medvedev urging them to pursue this bold course."

Following an historic joint announcement on April 1, 2009 committing the U.S. and Russia to "a nuclear free world," the two Presidents took a step even further at their July Summit Meeting in Moscow and declared that both countries would imminently reduce their nuclear arsenals.

On September 23, President Obama made his first address to the U.N. General Assembly. "The time has come for the world to move in a new direction," he said. "In an era where our destiny is shared, power is no longer a zero-sum game." The following day, the United Nations National Security Summit adopted a unanimous resolution calling for the elimination of all nuclear weapons. Global Zero.

Momentum is building as the realization sinks in that the only way to eliminate the nuclear threat is to eliminate all nuclear weapons. Bruce Blair and Matt Brown today count more than 200 signatories to the Global Zero Initiative, and they expect 250 in attendance at the next summit conference in Paris in February 2010, when political, military, scientific, business and religious leaders will strategize in advance of Obama's April summit on nuclear security and the May review of the 1968 Nuclear Non-Proliferation Treaty (NPT).

With the help of Participant's grassroots network of citizen and community activists around the world, a force that has grown incrementally since its inception in 2006 in support of the theatrical release of *An Inconvenient Truth*, the message of Global Zero will go out to people all over the world. Almost two dozen campus chapters of Global Zero have been mounted since September 2009, and response to an appeal Global Zero issued recently for student leaders to join the February 2010 summit in Paris has been both overwhelming and international in scope.

Countdown to Zero will premiere in January 2010 at the Sundance Festival and, like the nuclear chain reaction it aims to contain, the message of Global Zero will echo around the universe.

INTERVIEW SUBJECTS (IN ORDER OF APPEARANCE):

Valerie Plame Wilson

Former CIA Covert Operations Officer

"...Al Qaeda is determined to acquire nuclear weapons and to use them if they get them. In the early 90s, they tried to buy highly enriched uranium in the Sudan. They got scammed. Just prior to the 9/11 attacks, we do know that Osama Bin Laden and his lieutenant, Zawahiri, sat down with two Pakistani nuclear scientists and discussed nuclear weapons..."

Rolf Mowatt-Larssen

CIA Operations Officer 1983-2005

"...Robert Oppenheimer: In 1946, he appeared in a closed session of the Senate and one of the senators asked him if nuclear terrorism is a potential threat. He said, 'Of course. Terrorists could bring a bomb into New York City and destroy the city.' And someone asked him, 'How would you stop it?' He said, 'With a screwdriver. To open up every container that comes into the city.'..."

Chief Nuclear Investigator

Democratic Republic of Georgia

"When we started, we discovered that this [Georgia] was a real paradise for smugglers of all types. In the June of 2003, a smuggler was captured...180 grams of highly enriched uranium. Final place of destination-- Istanbul. August the 1st, 2006, someone tried to smuggle nearly one kilo of so-called 'yellow cake'..."

Lawrence Scott Sheets

Eight Pieces of Empire

"Georgia is located along Russia's southern border, a natural corridor, and things like highly enriched uranium could be smuggled through such a place on their way to Azerbaijan, Iraq, Iran, Turkmenistan, Afghanistan, so on and so forth..."

Scott Sagan

Political Scientist, Stanford

"...In 1961, a B-52 broke apart in midair over Goldsboro, North Carolina, causing two nuclear bombs to fall. One parachute functioned properly, and that bomb survived with minor damage. The other parachute failed to open. When that bomb hit, 5 of 6 safety devices malfunctioned. A single switch prevented a nuclear explosion...."

Zia Mian

Physicist, Princeton

"One Prime Minister of Pakistan said that Pakistan would build a nuclear weapon even if it meant that the people had to eat grass."

Pervez Musharraf

Pakistan President 2001-2008

[After Pakistan's first successful nuclear test] "Total jubilation in the streets of Pakistan. The first time we've achieved something which places us in the ranks of very, very few countries of the world..."

Mike Chinoy

Meltdown

"North Korea is scared of disappearing into what the communists used to call the 'dust bin of history,' like all their other communist friends, and they see nukes as the one thing that makes them the country that is taken seriously by the United States and the other big players in the neighborhood..."

Alexander Glaser

Nuclear Physicist, Princeton

"A nuclear weapon, in a sense, is the most simple configuration of nuclear material that you can imagine. You just bring together a certain quantity of fissile material, highly enriched uranium or plutonium, and, if you do it right, it will explode."

Matthew Bunn

Associate Professor, Harvard

"...There was a case at a Russian Naval Base in the early 1990s. One of the Naval personnel told a relative of his where the highly enriched uranium at this base was. This relative walks through a gaping hole in a security fence, walked up to what you and I would consider to be a tool shed, snapped the padlock with an iron bar. He set off no alarm. He was not detected at all. The Russian military prosecutor in that case said, quote, 'Potatoes were guarded better.'..."

Graham Allison

Nuclear Terrorism

"...The objective of Al Qaeda is to, quote, "Kill four million Americans, including two million children." This is, in his calculation, the- what's required to balance the scales of justice....You're not going to get to kill four million people by hijacking airplanes and crashing them into, into buildings..."

Pervez Hoodbhoy

Nuclear Physicist Quaid-e-Azam Univ., Islamabad

"Typically, an implosion bomb would have something like twenty-five kilograms of uranium, which is about the size of a grapefruit...."

Tony Blair

UK Prime Minister 1997-2007

"If Iran were to acquire nuclear weapons capability, the impact is across the whole of the region. You will get a whole set of other countries deciding they've got to acquire nuclear weapons capability."

Andrew Koch

Defense/National Security Analyst

"... [A. Q. Khan] was working at a company that was developing a brand new process for enriching uranium. He stole their designs and took the list of all their suppliers and went back to Pakistan...."

Ahmed Rashid

Descent into Chaos

"...Restrictions were placed, sanctions were placed, but somehow the Pakistanis got around that and, and the formal help actually came from India's enemy, China. China gave a blueprint of a nuclear bomb to Pakistan..."

Joe Cirincione

President, Ploughshares Fund

"[A.Q. Khan] contacted Iran, North Korea, Libya. But he didn't just give them the technologies, he also took the bomb designs that the Pakistanis had and threw those in as a sweetener. He gave them 24/7 technology support. Got a problem? Call 1-800-AQ-KHAN. It was a full service operation..."

Jeffrey Lewis

Nuclear Arms Analyst

"The hard part was what we did in 1945. The hard part is doing it the first time. This is no longer a conceptual challenge. There is no trick. There is no magic that needs to be figured out. It's really just an engineering challenge. It's definitely not rocket science. Rocket science is hard..."

Bruce Blair

President, World Security Institute

"...Today, the posture of the United States and Russia is exactly the same as it was during the Cold War. So if the orders went down right now, twenty years after the fall of the Berlin Wall, it would take about two minutes to launch all of the U.S. nuclear ballistic missiles out of their tubes in the Midwest, about that length of time for the Russians to do the same..."

Roger Molander

US National Security Council 1974-1981

"When we were working on nuclear arms control, I found myself in a meeting in the Pentagon with a Colonel. And we got into a short exchange about this and in this context of this exchange, he said, "But I don't understand what would be such a big deal if there were a nuclear exchange. Only about 500 million people would die..."

Jimmy Carter

US President 1977-1981

"I knew that if the Soviets did launch an attack, that it would take 26 minutes for an ICBM to leave Russian soil and land in Washington or New York. And I had that much time to decide how to respond."

Mikhail Gorbachev

USSR General Secretary 1985-1991

"We were on guard every minute, ready to strike back. We had to make a decision based on the timing of these missiles. Only minutes, a few minutes."

Zbigniew Brzezinski

US National Security Advisor 1977-1981

"The timeline was very short. [The President] had just a few minutes to make a decision; how to respond, at what level of intensity. Somewhere before the tenth minute, the order to execute would be issued...And roughly by the 28th minute at the latest, those of us not evacuated would be dead..."

Ira Helfand

Physicians for Social Responsibility

"On January 25th, 1995, the United States launched a rocket from Norway to study the Northern Lights. We told the Russians that we were going to launch that rocket, but somebody in Moscow forgot to pass the word on. When they picked up the four stages of this rocket, they initially interpreted this as four warheads from a U.S. nuclear submarine, which we always station off the coast of Norway, possibly directed at Moscow.... Boris Yeltsin was basically given five minutes to decide what to do."

Frank von Hippel

Nuclear Physicist, Princeton

"You know, having missiles on hair trigger is an accident waiting to happen. As Fermi said about physics, 'What isn't forbidden is compulsory.' Will it eventually happen? There's nothing that makes the launch of nuclear weapons impossible. If the probability isn't zero, it will happen."

R. Scott Kemp

Physicist, Princeton

"...The common wisdom is that they're very complicated, technologies that take countries decades to build...But the fact is that centrifuges are 1950's technology. And this is 2010. Highly enriched uranium is now within the grasp of really any country. And once you have HEU [highly enriched uranium], it's so simple, even a terrorist can make a bomb."

Robert McNamara

US Secretary of Defense 1961-1968

"The Cuban Missile Crisis endangered the very existence of our nation. We came that close to nuclear war. Neither the Soviets, nor we the U.S., intended to put our nations at that risk. And the next time, we may not be so lucky."

Reverend Richard Cizik

New Evangelical Partnership

"...I used to think that 'Well, we possess nuclear weapons in order to prevent their usage.' We now know we live in a world in which if we possess them - if anyone possesses them - they will be used....We have to change our way of thinking. And if we can't change our way of thinking, we won't survive...."

F. W. de Klerk

President South Africa 1989-1994

"We decided to take a 180 degree turn in South Africa. When I became president, I was informed that we had completed six devices more or less comparable to the bombs which were actually used at Hiroshima. I indicated I would like us to stop this program and become part of the mainstream in the world again."

Thomas D'Agostino

National Nuclear Security Admin.

"When you think about nuclear security, it's all about the material. A simple physical fact is that if you don't have fissile material, your highly enriched uranium or plutonium, for example, then you cannot have a nuclear weapon..."

Ambassador Richard Burt

Chief Negotiator START 1 Treaty

"When I came into government in the early 1980's, the idea that within about ten years all sides would agree to a 50 percent reduction in their nuclear weapons would have sounded absurd. But we achieved it...."

James Baker III

US Secretary of State 1989-1992

"The Soviet Union imploded when I was Secretary of State. And we actually got an enforceable treaty where we got Belarus, Kazakhstan, and Ukraine to give up their nuclear weapons. All countries in the world have to sign a legally binding intrusively verifiable agreement to rid the world of nuclear weapons."

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Q & A WITH DIRECTOR LUCY WALKER

Q: What motivated you to make this film? Was there a specific precipitant?

It was 2002, and my first feature documentary, *Devil's Playground*, about Amish teenagers, was coming out, and there was an article in the New York *Times* Sunday Magazine about one of the subjects of my film struggling to decide whether or not he should be Amish. I was reading that story - and then the cover story of that same magazine was about a nuclear bomb being detonated in Times Square in New York City, where I was living at the time. And I was thinking - what's the question? Let's all join the Amish! We'd better all get out of New York right now, if a nuclear bomb was detonated here, we don't want to stick around! It was the scariest thing I've ever read, to be told on exactly which blocks you would be vaporized, or burned to death, or smashed to bits, even in the boroughs you'd still be killed from blast and fallout could kill people all the way up to Boston, with a large enough warhead and the right prevailing wind.

The timeliness and urgency of the nuclear weapons issue can not be overstated. Because as we look into the future, the scenarios only get scarier... This could not be a more timely issue, and I jumped into it with both feet the moment that the opportunity presented itself...

Q: Could you address the three main areas of concern raised in the film:

1. Rogue states making the bomb

If we don't want other countries to have the bomb, how can we justify keeping it ourselves? It's no good to reminisce about the old Cold War scenario in which there was a nuclear club of five nuclear weapons states, and the posture of mutually assured

destruction (MAD) kept things under control. The nonproliferation regime is failing, and I believe we are at the tipping point. If Iran gets the bomb, how many other states will follow? We have only two choices: a world in which nobody has nuclear weapons, or a world with rogue states and even non-state actors having them. Which would you prefer to live in?

2. Terrorists making the bomb

Every step that is necessary for terrorists to make a bomb not only could happen, but it has already happened. Just not all in one sequence ... that we know of ... yet. Terrorists do have the intent, they have recruited nuclear scientists, they have tried to buy nuclear materials, and smugglers have sold nuclear materials to terrorists... it seems as if all these steps haven't yet connected into a continuous chain of events that results in an actual terrorist nuclear attack. But what's to stop that happening? And don't we want to do everything possible to prevent it? And if terrorists get the bomb, us having one will not help us. Terrorists are not bound by treaties and they cannot be retaliated against. They have no return address.

3. Human error setting off the bomb

I was fascinated to read Scott Sagan's book *The Limits of Safety* and articles about what he calls "the problem of the problem of redundancy [sic]"... I couldn't believe that more work was not being done, or being more widely disseminated, on the risks of nuclear accidents. It was fascinating to me that you could have theories about something as, well, accidental, as accidents. And then Bruce Blair started telling me his anecdotes about launch codes being misplaced or sent to the dry cleaners, or set to all zeroes and I wanted people to understand that human fallibility does not cease to apply because the consequences are so grave. The possibility of an accident or error can never be zero. And if the risk isn't zero, as time goes on, something terrible will eventually happen. That is a statistical fact.

Q: You have interviewed more than a dozen subjects for Countdown. How did you secure their participation? Why did you choose these particular individuals?

A lot more than a dozen! I interviewed eighty-four people, from Dick Garwin, who developed the first hydrogen device (although he did not get the credit) as a twenty-year-old PhD candidate from Fermi's lab while on a summer internship at Los Alamos; to Frits Veerman, A.Q. Khan's best friend, who noticed that he was spying and tried to alert his bosses at the uranium enrichment facility in the Netherlands in the mid 1970s. I even conducted several phone interviews with A.Q. Khan himself: his opening line was "Madam, are you looking for a villain for your movie?". He's no fool, unfortunately. We've got a lot of material for DVD extras!

For research and development, I met with or spoke with over a hundred additional experts and trawled through hundreds of books and articles, and sifted an incalculable deluge of information and attended conferences all over the world in order to bring you the most interesting voices with the most important points across the whole subject area.

Q: Were there other people you wanted to include?

One person - and a President at that - who I wish we could have included but has sadly passed away, of course, is President Reagan. I am fascinated by the 1986 Reykjavik summit, when Reagan (supposedly freaked out by the 1983 TV Movie *The Day After*) and Gorbachev (alarmed by Chernobyl, and hoping to free up some cash for his economic reforms) went against their advisors to propose all-out abolition. They may not have succeeded - although it did succeed in turning the arms race around - but to me this demonstrates that it took only the political will of two leaders to slice through any amount of bureaucracy, inertia, fear and opposition. That's something for President Obama to think about right now, if you ask me.

Back in 1986, apparently Reagan had said "it would be fine [with me] if we eliminated all nuclear weapons." And Gorbachev responded, "We can do that. We can eliminate them." And at this point, the normally sober, impassive [Secretary of State George] Shultz burst out, "Let's do it!" The conversation continued, as was transcribed in recently declassified official memos of comments, with Reagan musing that ten years from now...he and Gorbachev would come to Iceland and each of them would bring the last nuclear missile from each country with them. And they would give a tremendous party for the whole world. He would be very old by then, and Gorbachev would not recognize him. So he would say, "Hello, Mikhail". And Gorbachev would say "Ron, is that you?". And then they would destroy the last missiles".

Q: Was securing your spokespersons a collective effort? Who did the actual interviewing? Were there questions about things you really wanted to know that did not get answered?

Yes, securing interviews was most certainly a team effort in which we used all our collective resources and relationships - myself, the producer Lawrence Bender, Participant, and also Matt Brown and Bruce Blair of Global Zero.

I did the actual interviewing myself -- it's a part of the process that I enjoy, and in this movie it was particularly challenging. Nobody is going to say anything candid or private about nuclear weapons: it's the most clandestine, sensitive, confidential subject I can think of.

Some of the leaders gave us only very short interviews, so it was a challenge to get more than a couple of basic questions answered, and some folks also vetoed certain topics -- for example former President Musharraf did not want to talk about A.Q. Khan, as a condition of granting the interview.

The interview I conducted with Secretary Robert McNamara was a very emotional one as it was clear to us all that this was going to be his last interview. He was obviously aging, but he was wagging his finger at me, determined to make his point heard, that nations would be destroyed if we did not destroy nuclear weapons.

Q: Bruce Blair of the World Security Institute is one of your interview subjects, and he's also an executive producer. What roles did he play in this project, e.g. making introductions, vetting information, etc. Were other nonproliferation organizations of service?

Bruce Blair and Matt Brown of Global Zero were both a tremendous source of information and inspiration in all aspects of making the film.

I realized about halfway through making the film that Bruce was important to have onscreen and not just off-screen, because he was a unique spokesman in his field of expertise. As a former launch control officer, he had seen command-and-control weaknesses firsthand, and then awakened to the dangers he'd witnessed, he'd done the best research on the terrifying dangers of launch-on warning. It blows my mind that the US and Russia still have as many as three thousand warheads poised on hairtrigger alert for launch on warning. As Bruce says, they don't call them Minutemen for nothing. This is exactly what Einstein was warning us about when he said that we are drifting towards catastrophe because nobody has changed their modes of thinking.

Q: Did you go to Georgia to interview the chief investigator of the Georgia Anti-Smuggling Division and Khinsagov?

I did indeed go to Georgia - to both Georgias! I like to joke that I went everywhere from Georgia the country (to investigate nuclear smuggling in Tblisi and all around the borders with Russia and Azerbaijan and the Black Sea) to Georgia the state (to interview President Carter in Atlanta) to make this movie.

Probably the biggest journalistic coup in the movie is the first and only interview with Oleg Khintsagov, which took a serious amount of networking in Tblisi! I spent nights out drinking with government ministers and senior policemen to secure the support of the Interior Ministry in order to get access to Oleg Khintsagov, who is a real life nuclear smuggler. He actually had weapons-grade bomb material, and he actually sold it to a man he thought was Al Qaeda (even though it turned out to be a sting operation, and the buyer was an undercover cop).

When I was interviewing Oleg, I had a chilling feeling that it may have been a bit like interviewing Mohammed Atta before the 9/11 attacks. Here was somebody who was actively trying to sell nuclear weapons material to terrorists whose stated goal was to kill four million Americans using a nuclear device. The undercover cop introduced himself to Oleg as "a Muslim man from a serious organization" - in other words, Oleg thought he was selling bomb-grade material to Al Qaeda. In the interview, Oleg told me that when he watched the twin towers fall on TV he had celebrated, and he talked excitedly about how "nine grams can bring down the elephant" - meaning that a tiny amount of nuclear material could bring down the entire United States. And that was his goal. I am usually a very compassionate interviewer and try always to put myself in the shoes of anyone I interview in order to best bring out their most intimate and heartfelt views and experiences for the camera, and it was really, really, really hard to nod along as I listened to this.

Did you find any heroes among your interviewees?

The good guy in this story, at the opposite extreme of the evildoer-hero spectrum, is the top cop of Georgia's radioactive smuggling unit. I couldn't believe how smart, effective, and helpful he was - it blows my mind that people so talented are so generous as to put their lives at risk to keep the rest of the world safe, and nobody ever even hears about them, much less thanks them. If it wasn't for this genius Georgian cop and his team, there would, without doubt, be a whole lot of materials for nuclear and dirty bombs on the black market around the world.

I feel the same way about the folks I met who run the US Department of Energy programs to secure loose nukes and secure ports and borders worldwide from nuclear smuggling. It's the toughest and most important job in the world, and I can't say enough good things about these folks like Dave Huizinga and Igor Bolshinsky and Tracy Mustin, who are my absolute personal heroes. And not only do they serve us all so selflessly, they let me film, too!

How long was the shoot? In how many locations? How much time did you spend on average with each interview subject? How many questions did you have to ask before getting the answers you wanted to hear/use?

We were shooting for over a year, but only sporadically. Often our interviews were very short, sometimes as short as twenty minutes, particularly with the VIPs. Long interviews are much better for warming people up and covering a lot of ground, so this was an excellent challenge for my interview skills to prioritize the questions and deliver candid exclusive insights on sensitive topics in very limited windows of time. I really enjoyed the challenge and am very proud of the interviews we secured and conducted.

And it's lucky I'm not star struck, because our list of interviewees is like the list of the masters of the universe! Former leaders included President Carter, President Gorbachev, former President De Klerk, former Prime Minister Tony Blair, former President Shevardnadze, former President Musharraf... etc etc etc.

Q: How many people were on the crew for these interviews

The entire team comprised cinematographer and myself (I recorded the sound myself). So the filming crew is ultra-pared-down, and only occasionally would we even have a third pair of hands to round out the team to meet the needs of a particular situation. I find it so effective and efficient to work in a team of just one other person and myself.

Q: You have four cinematographers--did you pick them up on an "as needed" basis due to the sporadic nature of your schedule?

The nature of our subject, which had to accommodate the schedules of world leader interviews and nuclear facilities clearances, made for the most sporadic and peripatetic shoot imaginable. We were shooting an hour here (with "here" meaning, say, in Washington DC), and an hour there (say, in Moscow) for over a year. It was a line

producer's worst nightmare -- fortunately we had Co-Producer Lisa Remington in charge, who did a spectacular job.

Q: Was this also the case with sound recordists?

I recorded almost all of the sound myself, which I prefer for three extremely important reasons: it reduces our budget; it makes for a more intimate shoot; and, given all the travel involved, it reduces our carbon footprint.

Q: Assuming the budget cannot be disclosed, could you ballpark the percentage of overall dollars spent on the actual filming of interviews (including crew salaries, equipment rental, travel and accommodations), vs. licensing of footage.

Those are actually quite complicated calculations... which I don't know and I couldn't even guess the answers to... but I can say I always strive to stretch the budget by being supremely frugal with filming costs, which meant that we bought and then resold the equipment, minimized the crew to just one DP and myself (recording sound, organizing our travel, doing research, writing the questions, and conducting interviews etc myself), we generally did not stay in hotels but instead stayed with my friends for free....

Q: How much time did it take to research and prepare this film?

The research was a massive amount of work, given the nature of the subject -- which couldn't be more technical, broad, complicated, sensitive and classified!

I literally can't imagine a bigger research job. I needed to make myself an overnight expert in the history, science, and politics of these weapons -- from understanding North Korea, to following developments in Iran, to tracking down nuclear smugglers in Tblisi, to understanding the physics of fissile materials, to grasping policy arguments... so forgive me if I ever get mixed up on a detail... I can't imagine a subject that requires more research to grasp and master and communicate!

I was very grateful for many wonderful conversations and conference introductions and reading suggestions from so many people in the world of nuclear weapons, from the Department of Energy to the IAEA to nuclear weapons labs scientists to anti-nuclear activists to retired generals, even the real inventor of the hydrogen bomb -- everyone helped sharpen my thinking and direct me to the most urgent points.

Q: Were you constantly revising as world events changed around you?

This issue is on the front page of newspapers around the world every day....not a day goes by that the news doesn't tell me that this movie could not be more important or more timely!

On the other hand, we knew we couldn't be merely "newsy" as we can't compete with the news cycle, and a movie deserves a long shelf life. I know that I still get a great deal out of older movies about nuclear weapons from *Dr Strangelove...* to *The Day After*,

Threads, When The Wind Blows, Dark Circle... so much great work and more. So it was about sifting every piece of information to give audiences the tools to understand the news events as they continue to unfold.

Q: Start to finish, how much time did you devote to this project?

I started talking to Participant and Lawrence Bender in October 2007, the film was greenlit in April 2008, and the world premiere is January 2010.

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ABOUT THE FILMMAKERS

In addition to *Countdown to Zero*, **LUCY WALKER (Writer-Director)** directed *Wasteland*, a 2010 Sundance World Cinema Documentary Competition entry. *Wasteland* follows Brazilian artist Vik Muniz and a lively group of *catadores*, or pickers of recyclable materials, on an uplifting journey from the world's largest garbage dump in Rio to the most prestigious auction house in London via the surprising transformation of refuse into contemporary art.

Her most recent film, *Blindsight*, premiered in Toronto and received audience awards at the Berlinale, Ghent, AFI and Palm Spring Film festivals and nominations for Best Documentary at the 2007 Grierson and British Independent Film awards. *Blindsight* follows the emotional journey of six blind Tibetan teenagers who climb up the north side of Mt. Everest with their hero, blind American mountaineer Erik Weihenmeyer, and their teacher, Sabriye Tenberken, who founded Braille Without Borders, the only school for the blind in Tibet.

Lucy's first feature documentary *Devil's Playground* examined the struggles of Amish teenagers during their period of experimentation (*rumspringa*) and premiered at the 2002 Sundance Film Festival. It went on to win awards at the Karlovy Vary and Sarasota film festivals, three Emmy Award nominations for Best Documentary, Best Directing and Best Editing and an Independent Spirit Award nomination for Best Documentary. Walker's credits also include Nickelodeon's *Blue's Clues*, for which she was twice nominated for an Emmy Award for Outstanding Direction in a Children's Series, and several award-winning narrative short films.

Walker grew up in London, England, started directing theater in high school and continued as an undergraduate at Oxford University, where her plays won prestigious Oxford University Dramatic Society awards. After graduating at the top of her class with a BA Hons and MA Oxon in Literature she won a Fulbright Scholarship to attend the Graduate Film Program at NYU's Tisch School of the Arts, where she earned her MFA. While at NYU she moonlighted as a musician and DJ. She currently lives in Venice Beach, CA.

LAWRENCE BENDER (Producer) boasts an illustrious career spanning more than twenty years in the entertainment industry. His films to date have been honored with 21 Academy Award® nominations, including two for Best Picture.

His latest collaboration with director Quentin Tarantino, *Inglourious Basterds*, has been nominated for Golden Globe and BFCA Critics' Choice Awards for Best Picture as well as Best Film honors from critics' groups all over the country. Bender himself was recently nominated for the Producers Guild Darryl F. Zanuck Producer of the Year Award for the film.

Bender's last project with Participant was the profoundly influential *An Inconvenient Truth*, which he produced and Davis Guggenheim directed. It was honored in 2007 with the Academy Award® for Best Documentary Feature Film.

Prior to *An Inconvenient Truth*, Bender's *Innocent Voices*, directed by Luis Mandoki, was Mexico's official entry for the Academy's Foreign Language Film competition. It received the 2005 Producers Guild Stanley Kramer Award as well as the National Board of Review's Freedom of Expression Award.

Bender was previously nominated for a Producers Guild award for *Good Will Hunting*, which received a total of nine Academy Award® nominations.

Pulp Fiction, which scored seven Oscar® nominations, marked Bender's second film with Quentin Tarantino. It was also nominated for a Producers Guild Award, a BAFTA Award for Best Film, an Independent Spirit Award for Best Feature and the Palme d'Or at the 1993 Cannes Film Festival.

Bender and Tarantino first teamed on *Reservoir Dogs*, which was nominated for an Independent Spirit Award as Best Feature in 1992. In addition to executive producing Tarantino's and Robert Rodriguez's *From Dusk Till Dawn*, Bender produced Tarantino's "Jackie Brown" and holds the distinction of being the only producer to have two films in simultaneous competition at the Berlin Film Festival: *Good Will Hunting* and *Jackie Brown*.

For television, Bender has done projects for all of the major broadcast and cable networks. His four hour mini-series, *The Legend of Earthsea*, for the Sci-Fi Channel in association with Hallmark Entertainment, was the network's most watched show of the year. Bender was also nominated for a GLAAD Award as executive producer of MTV's *Anatomy of a Hate Crime*, which addressed the murder of Matthew Shepard.

Bender began his career as a production assistant at the American Film Institute in 1985. In addition to his feature film and television work, Bender has enjoyed success in producing commercials and music videos with his production company, A Band Apart.

A passionate social and political activist, Bender co-founded the Detroit Project in 2003, targeting the gas-guzzling SUV. He has traveled to the Middle East with the Israeli Policy Forum (IPF) and sits on its Board. He is also on the Advisory Board to the Dean at Harvard's John F. Kennedy School of Government and serves on the board of The Creative Coalition and is a member of the Pacific Council. A recent recipient of the Torch of Liberty Award from the ACLU, he spends much of his time organizing fundraisers for political and social causes in Los Angeles, which he calls home.

A Salt Lake City native, **LISA REMINGTON** (**Co-Producer**) is an independent documentary producer based in Los Angeles. Prior to co-producing *Countdown to Zero* for Participant Media, she collaborated with groundbreaking filmmaker Robert Greenwald on projects including the feature documentary *Iraq for Sale: The War Profiteers*, as well as the ACLU-Brave New Films co-production *The Freedom Files*, a nine-part documentary series, which aired on PBS. She is a consulting producer on the upcoming feature documentary *Cesar's Last Fast* (directed by Richard Ray Perez) and has created content for Travel Channel/Discovery Communications, MediaVest,

Lifetime Television, Women's Entertainment Television and ABC Family. Lisa was introduced to the world of documentary filmmaking and films for social justice by the late Robert Guenette while working for the nonprofit Los Angeles Media & Education Center (LAMEC). She is a graduate of New York University's Tisch School of the Arts. Lisa regularly consults with emerging and established filmmakers in early stage fundraising strategies to create actionable production plans.

Musician, writer, arranger, producer, orchestrator and conductor, **PETER GOLUB (Original Score)** is an innovative voice in independent filmmaking. Much of his work has been scoring documentaries, most recently Kirby Dick's *Outrage*, Patrick Creadon's *I.O.U.S.A.* and *Wordplay*, the PBS Independent Lens presentation *Stolen*, an account of the unsolved theft of priceless art from Boston's Isabella Stewart Gardner Museum. He composed music for the acclaimed HBO drama *The Laramie Project* and for Denzel Washington's uplifting *The Great Debaters*, as well as Courtney Hunt's acclaimed *Frozen River*.

BRAD FULLER (Film Editor) began his career as Associate Editor on Errol Morris' first film, *Gates of Heaven*. They went on to work on six more films together, including *A Brief History of Time, Fast Cheap and Out of Control, Vernon, Florida, The Thin Blue Line, Fog of War* and *Standard Operating Procedure*. Fuller's other editing credits include Gary Oldman's BAFTA Award-winning *Nil by Mouth, Neil Burger's Interview with the Assassin,* the Oscar®-nominated documentary short *Two Hands: The Leon Fleisher Story* and the recently released *Every Little Step* which has been shortlisted for the 2010 Oscars®.

BRIAN JOHNSON (Film Editor) is an ACE and Golden Satellite Award nominated editor who works in both documentary and narrative films. Since attending New York University's School of Film and Television, he has worked with directors such as Michael Apted, David Lynch, Wim Wenders, Terry Sanders, Jessica Sanders, and Freida Mock. Among the documentaries he has edited are Academy Award®-nominated Buena Vista Social Club and Sundance Special Jury Prize Winner After Innocence.

Based in London, **GARY CLARKE (Cinematographer)** has been working as a cinematographer and/or camera operator in the British film and television industry since 2002. In 2006 he graduated to director of photography on a number of episodes of historian Simon Schama's *Power of Art*, the Italian renaissance of *Caravaggio* and the French revolution of Jean Louis *David*. His most recent assignments as cinematographer have taken him to Eastern Turkey to record the culture of the unique Pamir Kirghiz tribe for *37 Uses For a Dead Sheep* and to California for *Mojave*, where he captured the lives of some of the seasoned old "Desert Rats."

A frequent collaborator of renowned documentarian Errol Morris, **ROBERT CHAPPELL (Cinematographer)** was director of photography on Standard Operating Procedure," the Academy Award®-winning Fog of War: Eleven Lessons From the Life of Robert S. McNamara, and Morris' much lauded 1988 The Thin Blue Line. He does a lot of work on short films; his very first credit as cinematographer was on the 1982 Oscar®-nominated In Our Water, an early exposé of environmental issues.

In recognition of his gritty naturalistic lensing on the powerful A&E series *Intervention*, **BRYAN DONNELL (Cinematographer)** was nominated for an Emmy for Outstanding Cinematography for a Reality Program. Following his first screen credit as cinematographer on Marianna Yaroskava's prize-winning USC student film *Undesirables*, he worked steadily on a variety of shorts, television shows, video specials and feature films.

Raised by an Italian mother and Scottish father between Scotland and Saudi Arabia, for the best part of a decade **NICK HIGGINS** (**Cinematographer**) shot films clandestinely while being employed to sell GE's 747 aircraft engines based out of the company's Hong Kong and Rio De Janeiro offices. His career switched gears when he was accepted into the American Film Institute and became the first Scotsman to earn an M.A. in Cinematography. Recent documentary credits include Robert Greenwald's Iraq *for Sale: The War Profiteers* and Randall Wilson's *Hessians MC*. Nick has independently produced, directed and photographed five films of his own.

Jeff Skoll (Executive Producer) founded Participant Media (formerly Participant Productions) and serves as Chairman. Jeff's vision for Participant is to produce and finance entertainment that inspires a sustainable world of peace and prosperity.

Skoll recently served as executive producer on Participant's films Good Night, and Good Luck., North Country, Syriana, American Gun, An Inconvenient Truth, The World According to Sesame Street, Fast Food Nation, Angels in the Dust, Jimmy Carter Man from Plains, Darfur Now, The Kite Runner, Charlie Wilson's War, Chicago 10, The Visitor, Standard Operating Procedure, The Soloist, Pressure Cooker, Food, Inc., The Informant!, Cane Toads: The Conquest, Waiting for Superman and CASINO JACK and the United States of Money.

DIANE WEYERMANN (Executive Producer) is Participant Media's Executive Vice President of Documentary Films and responsible for the company's documentary slate, including such current projects as Mark Lewis' *Cane Toads: The Conquest*, Davis Guggenheim's *Waiting for Superman* and Alex Gibney's *CASINO JACK and the United States of Money.* Recent projects include Brian Hill's *Climate of Change*, Robert Kenner's *Food, Inc.* and Jennifer Grausman and Mark Becker's *Pressure Cooker*, as well as *Angels in the Dust, Jimmy Carter Man From Plains, Darfur Now, Chicago 10, Standard Operating Procedure* and the Oscar®-winning *An Inconvenient Truth*.

Prior to joining Participant in October 2005, Weyermann enjoyed long tenures as Director of the Sundance Institute's Documentary Film Program, and before that, Director of the Open Society Institute New York's Arts and Culture Program. In addition to her work with contemporary art centers and culture programs in the Soros Foundation network, which spans over 30 countries, she launched the Soros Documentary Fund (which later became the Sundance Documentary Fund) in 1996. Since the inception of the Fund, she has been involved with the production of over 300 documentary films from around the world.

DR. BRUCE G. BLAIR (Executive Producer) is the president of the World Security Institute. Blair is an expert on U.S. and Russian security policies, specializing in nuclear forces and command-control systems; in 1999, he was awarded a MacArthur Fellowship Prize for his work on de-alerting nuclear forces. Blair was a senior fellow in the Foreign Policy Studies Program at the Brookings Institution from 1987 to 2000. He served as a project director at the Congressional Office of Technology Assessment from 1982 to 1985.

From 1970 to 1974, Blair served in the U.S. Air Force as a Minuteman ICBM launch control officer and as a support officer for the Strategic Air Command's Airborne Command Post. He is a participant and lead author in the Hoover Institute-Nuclear Threat Initiative's Nuclear Security Project. Blair received a B.S. from the University of Illinois and a Ph.D. in operations research from Yale University.

He is Co-Coordinator of Global Zero, **MATT BROWN** (Executive Producer) is the former secretary of state of Rhode Island (2002-2006) and executive director of City Year Rhode Island, a national service program. As secretary of state, Brown developed Rhode Island's first Central Voter Registration System, a computerized voter registration system ensuring accurate voter lists; he launched Motor Voter e-Registration, a first-in-the-nation electronic voter registration system; and he developed new e-Government tools to increase the transparency of government.

Brown has taught at the University of Rhode Island, and has given legislative testimony on election reform, government reform, health care, and other policy issues. He received a B.A. from Columbia University and a J.D. from Yale Law School. He is Co-Coordinator of Global Zero.

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ABOUT PARTICIPANT MEDIA

Participant Media is a Los Angeles-based entertainment company that focuses on socially relevant, commercially viable feature films, documentaries and television, as well as publishing and digital media. Participant Media is headed by CEO Jim Berk and was founded in 2004 by philanthropist Jeff Skoll, who serves as Chairman. Ricky Strauss is President.

Participant exists to tell compelling, entertaining stories that bring to the forefront real issues that shape our lives. For each of its projects, Participant creates extensive social action and advocacy programs which provide ideas and tools to transform the impact of the media experience into individual and community action. Participant's films include The Kite Runner, Charlie Wilson's War, Darfur Now, An Inconvenient Truth, Good Night, and Good Luck, Syriana, Standard Operating Procedure, The Visitor, The Soloist, Food, Inc. and The Informant!