Response of Otto E. Langer to Cross Examination Questions Posed by 'Canada' as Related to My Affidavit Sworn on September 22, 2011 as Related to Commission of Inquiry into the Decline of Sockeye Salmon in the Fraser River.

October 19, 2011

Responses are arranged as the questions are posed by 'Canada' using the page numbers and question numbers in Canada's 15 pages of cross-examination which consists of about 100 questions.

Many of the questions are confusing and many are redundant in that the same issue is covered in several different questions. That is noted as it occurs. Also many questions are highly argumentative, appear to badger and appear to attempt to diminish my good knowledge base and reputation and they cannot be responded to in a very concise manner as requested. Also many questions seem to go beyond the 2002 cutoff as dictated by Commissioner Cohen and again carefully spelled out by Canada. I simply do not understand how many of there questions should have been allowed in any fair application of due process.

Despite this Commission ruling on the cutoff as related to my expertise, many of the questions posed by Canada ask for answers that can only relate to knowledge I obviously must have gained after that cut off date i.e. after I officially left DFO in 2002. This again is confusing and I am reminded by Canada if I stray into the post 2002 personal knowledge era they may object to my answers. I find that approach very contradictory. Accordingly I have answered all questions as posed by Canada as related to all personal knowledge I have.

Most of this confusion and terribly and lengthy affidavit evidence and communications could have been avoided if I was simply treated like most other witnesses and allowed to appear to testify at the inquiry. Also what I have been to comment on is a minor issue as related to my expertise and what I have to offer on real fishery issues has been largely ignored and objected to.

<u>Responses to Canada's Questions:</u>

P2. Q1. This is a statement and not a question.

P2. Q2. All material stated in my affidavit whether admissible or not is based on my personal knowledge.

P2. Q3. Not relevant.

P2. Q4. This question is addressed in the preamble and is it is not possible to answer properly until you properly define what is "personal knowledge" and how it is or cannot be acquired. I at no time attempted to ignore the directions of Commissioner Cohen but

his ruling and your interpretation of what I can or cannot say does confuse me and in that my Affidavit was reviewed by council and rewritten to bring it into line with the Commissioners ruling I question why you seem to want to know why I have ignored the rulings of Mr. Cohen. I do not believe I have done that.

Obviously the Commissioner's and your understanding of "personal knowledge" may be very different from mine. Also it is not clear of what "direct personal knowledge" is. My interpretation of it is possibly wider than that of the Commissioner or that of Canada. I believe personal knowledge is gained from ones biological senses of everything that occurs around them and is recorded as passive knowledge that can be used to train muscle movements and that is usually called ability or skills – either way that is personal knowledge stored in ones brain.

Controlled and voluntary mental recall that is the issue here includes their education knowledge, experiences (what they see, feel, hear and smell and do and all the animate and inanimate response to that) and from interactions with others including all forms of life by any form of contact. In that I was under cross examination I was not allowed to seek advice from my lawyer on what does this term mean in the lay world versus your legal world.

Further your line of questions often totally confuses what I believe are the directions of Mr. Cohen in that you have gone out of your way to pose many questions that cannot be answered if my knowledge base is limited to the time I officially left DFO in 2002. You have asked many questions that apply to a knowledge base that would have had to have been developed after 2002. I still do not comprehend how my knowledge base on DFO and DOE for all time after I officially left DFO on April 25, 2002 appears to be irrelevant.

To take the matter a step further, I did not work for DFO for 6 months prior to that date and had a full time job with the David Suzuki Foundation starting on November 5, 2001. Did my mental competence and my knowledge base related to what was happening in habitat and pollution and water quality issues in DOE and DFO maybe simply halt on that day and Mr. Cohen erred in his ruling? None of this ruling makes any sense to me and further it has not guided your questions well.

I have been an expert witness in over 100 criminal trials across Canada and about 50 official inquiries in BC and in the Yukon. For some of them I have had to prepare briefs and affidavits. At no time in these 150 criminal trials and hearings have I even been exposed to such restrictive rules of conduct and the process of this Inquiry as totally caught me off guard and still confuses me in that they seem to be restrictive and obstructive and not conducive to allowing a well informed Fraser River and salmon biologist the the opportunity to provide full evidence and expert opinion. Here the evidence seems to be secondary to the primary need to discredit and even harass the

witness. I regret that I even gained standing before this commission in that the process seems more important than the decline of the sockeye salmon as evidenced by the smothering effect I have seen in this hearing process as delivered by the overly legalistic process.

P2. Q5. This has been more than fully responded to.

P2. Q6. This question has again been fully responded to.

P2. Q7. I last worked with DOE 28 years ago and not 30 years as you have stated.

a. b. and c. My knowledge of DOE programs, resources and impacts of changes related to Section 36 of the Fisheries Act was very up to date to 1991 in that I worked with DOE staff on a near daily basis as Head of Fraser River, Northern BC and Yukon Habitat Management. During the 1991 to 1997 time period I worked with DOE on the joint Fraser River Action Plan whereby DOE and DFO jointly worked on many Section 36 issues and my unit published a series of reports of Fraser River Water Quality in cooperation with DOE. Four regional basin reports were published in the 1997 to 2000 time period and involved many DOE staff.

I also had many meetings with DOE and Justice staff related to various pollution/habitat violation and prosecution matters. As noted in my response to the Commission dated Oct 16, 2011, after the year 2001 I left DFO and my knowledge base as to DOE Section 36 programs became more dated as time passed; however, even as late as 2009 I met with lawyers of the Canada Office of the Public Prosecutor and was given an update on the prosecutors view of DOE enforcement programs. This latter item was of course second hand knowledge.

P3. Q1. My detailed review of my employment with DFO and DOE from 1969 to 2002 was forwarded to the Cohen Commission in 2010. It is attached as a detailed response to this question (Attachment 1). It was also forwarded as Appendix 3 to my original Affidavit on this issue and much of it was subsequently ruled inadmissible.

P3. Q2. This is fully outlined in my attached resume.

P3. Q3. This question asked what capacity I functioned in the 1969 to 1972 time period as related to duties under 35 and 36 of the Fisheries Act.

I am certain that you are aware that Section 32(from 1976 to 1990) and now numbered Section 35 of the Fisheries Act did not exist during that time period. I was one of the key workers that promoted the need for a habitat protection section in of the Fisheries Act and provided input to NHQ Ottawa for that legal need and it became law in 1976 and promulgated in 1977 as the harmfully alteration, disruption or destruction habitat (HADD) provision of the Fisheries Act.

The above material was well explained in my expert witness report to the BC Supreme Court in the past year in that I was asked by the BC AG to be an expert witness on the history of habitat protection in BC from 1958 to 2004. That brief was also deleted from my original affidavit. It is again attached (Attachment 2) in that is very relevant to the questions you now ask and provides you with some of the answers you have now raised.

During the 1969 to 1972 time period we only had section 33 (now 36) of the Fisheries Act to do limited physical habitat protection work (e.g. sediment releases) and a few other habitat provisions (stream blockage, logging debris in streams, dams, water passage and screening provisions). I determined that sediment was a significant problem for salmonid survival in BC and in that little was being done to address the problem I began to work on this issue and establish myself as the DFO expert on the harmful and deleterious impacts of sediment on fish and fish habitat.

This expertise resulted in me being involved in thousands of sediment discharge and control issues and an expert witness in about 80 trials related to sediment as s deleterious substance or a HADD issue for the Province of BC, Alberta and for DFO and DOE in BC, the Yukon and Newfoundland. In addition I have been also an expert witness on about 20 other habitat and pollution violations in BC, Yukon, NWT and Alberta involving various pollutants especially oil type discharges.

P3. Q4 and Q5. This is outlined in my attached CV. However if you require more detail - in about 1973 I was promoted to establish a new DFO Southern Operations Water Quality Unit. I did extensive searching to find good experts to work in the group and by 1975 the unit has about 8 staff in it and at times about two term staff (Samis, Heindrich) for a total of 10 workers. My job was the head of the unit and we hired a PhD in water quality (Dr. Ian Birtwell) and he took on the duties of marine pollution and I more directed programs related to freshwater pollution. I also hired two new graduates from UBC (Nassichuck and Harbo). At that time a senior biologist was a Biologist 2 level and new recruits with an MSc was a Biologist 1 and then we had technicians at the EG 5 to 7 levels (Taylor, Pearce, Lochbaum). The group also had it own receptionist – typist. When I left DFO to join DOE in 1976, Dr. Ian Birtwell became the head of the Water Quality Unit and the position was elevated to the Biologist 4 level to match similar levels in DOE.

The duties of this water Quality Unit were wide and very challenging and to some degree were outlined in my original Affidavit. They included:

> 1. Provide a link between DFO fisheries expertise and what fish needed in terms of water quality protection and convey that to the new DOE EPS organization that now administered Section 33(36) of the Fisheries Act. Work with the DFO Science research staff and IPSFC research on pink and sockeye salmon and make that expertise available to DOE as related to violations and ongoing review of each pollution application resulting form the BC Pollution Control Permit system.

2. Respond to countless deleterious substance spills, discharges of sediment, oil and pesticides and deleterious substances in all areas of the coast and in BC rivers. Establish a complete pesticide review system in that the Province had no legislation to control pesticide use in BC and pesticide fish kills were very common.

3. Establish an assertive posture for careless spills so trained Fishery Officers how to collect evidence and equipped all of them with pollution sampling kits.

4. Responded to many inquiries including that related to pulpmills, new mines, appeals of BC Pollution Permits such as for the discharge of sewage into the headwaters of the Weaver Creek sockeye spawning channel and present briefs to BC Cabinet to promote treatment of sewage such as at the Fraser river Annacis outfall in the Fraser river.

5. Sit on many committees for the development of programs and budgets and on other committees to study the impacts of many new developments including industrial plants, new Science initiatives, heavy metal pollution, the massive growth of algae in the Thompson River due to discharges from the city and local pulpmill, etc.

6. Publish in depth studies so as to document our work and establish the principle of scientific accomplishment in an operational non-research unit.

7. In 1976, incorporate Northern Operations Staff into a Regional Water Quality Unit in a newly organized DFO Habitat Management Division that had four units in it i.e. Water Quality, Water Use, Land Use and Habitat Inventory and Planning) DFO. I left DFO as that was taking place. At least one of the NOB staff (Mr.W. Knapp) was then added to the new regional WQ Unit and he retired bout 2 years ago.

I and the WQ Unit was very independent of DFO Habitat Management direction in that DFO's expertise in water quality was lacking and the unit established its own programs and set its own agenda as to the needs of fish and we related to the greatest risks that fish were exposed to. Our closest working partners were the IPSFC, DOJ, and DOE water quality staff. In that I have fully documented the history of habitat protection and staffing and work issues for the Office of the Auditor General a few years ago, this material is appended as Attachment 3. It was also rejected when made part of my original Affadavit but it is obviously relevant in that you now ask for that information. I cannot offer much more detail in a written format.

P 3. Q6. Up to 1976 while I was in DFO, I and the local Fishery Officer determined what was a habitat or pollution violation and charges were laid. We often contacted DOJ for legal advice for the prosecution of the case and not on the advisability of laying charges. The program was very field oriented and decisions were not vetted through various committees or did not have to go "up the ladder" for most matters. I took the lead in

educating Fishery Officers in collecting evidence and equipped them with sampling kits and DFOs first pollution sampling manual.

P 3. Q7. As noted above when I left DFO in 1976 the Unit was taken over by Dr. Ian Birtwell and when he moved to Science a few years later the Unit was then headed up by Mr. M. Nassichuck and then Mr. Samis who both retired a few years ago. During this time period the sthree DFO staff in the joint DOE-DFO Water Quality laboratory did report to the WQ Unit. However they were cut in a budget review exercise in the late 1980s and DFO staff were told it was easier to contract out water quality analyses but were given only about 10% of their old WQ budget to then do the analyses out of house.

The Water Quality Unit I established in 1973 persisted at least until about 2007 and was directed for over 30 years by staff I hired in its early formation. In 1983, about 3 pys form the RHQ Water Quality Unit was decentralized to South Coast (1py) and Fraser River, Northern BC and Yukon Areas (2pys). I returned to DFO from DOE in 1983 to take on the task of organizing that unit and giving it direction out of the DFO New Westminster office.

The WQ (Section 36) unit I developed in 1973 persists in a decentalized and RHQ format to this very day.

P4. Q1. I agree that DOE has administration responsibilities over Sect. 36 and DFO has overall jurisdiction over the Fisheries Act. However, this distinction is more or less in law or politics and does not translate to the daily diligent and accountable use of that section of the Act. As it has worked over the years, DOE may as well have had jurisdiction over Section 36 in that DFO has done little to establish accountability in the diligent use of that section of the Act by DOE and all attempts in accountability have mainly given rise to many MOUs, annual reviews, etc and little has changed since 1971.

P4. Q2. On or about October 29, 1971 I was informed by the Chief of the Special Projects Unit (renamed the Habitat Protection Unit) that a memo had been signed by the DOE and DFO ADMs of the day (Lucus and Weir) and that memo determined what the new DOE EPS organization versus DFO's would do in terms of water quality work. The memo was circulated and we had to determine what our job with this new split was. This was a greater issue for our then Pollution Control Unit in DFO because that affected their job directly whereas I was in the physical habitat protection business but it over lapped with my job in terms of some pollutants such as sediment discharges that was one of my major responsibilities. At the time DFO had to rely totally on Sect 33(36) of the Act in sediment discharge incidents in that there was no Sect 32(35) in the Act until some 5 years later.

P4. Q3. This is fully described in my original affidavit to this Commission and I am just now repeating what I earlier documented. The original organization left DFO and DOE in the same department as Environment Canada (EC) and DFO just became a service of EC similar to the much smaller Environmental Protection Service (EPS) which was to absorb DFO pollution control staff.

P4. Q4. As noted in my original Affidavit, the names changed as the organizations evolved over a few years and the Prime Minister then separated the DFO Service from the EPS organization and each service became the core of DFO and DOE respectively.

P4. Q5. Again this was answered in my original Affidavit that was largely censured. The newspaper articles of the day and briefing material from DFO NHQ in Ottawa indicated that fishermen were very upset with DFO becoming a service under DOE and during an election campaign in the early 1970s the Prime Minster made the decision to separate out DFO from the new DOE organization. I as a staff member of DFO was well briefed on that matter. This was confirmed in media documentation of a discussion between the then DOE Minister Jack Davis and Prime Minister Trudeau at the Vancouver International Airport. This is personalknowledge that I obtained form the media. I donot know if that is so called "direct" personal knowledge. At no time did the Prime Minister ever meet with me directly and update me if that is your concept of acquiring direct knowledge.

This division was of concern to most DFO staff involved in WQ issues in that DOE then moved out of the DFO building at 1090 West Pender Street and moved to a separate office at Kapilano 100 in West Vancouver. Prior to that we worked on adjoining floors of a Vancouver office building and had communications on a daily basis and this separation of organizations and office space further separated the agencies and made communications more difficult.

I am not aware if the Federal Government of the day also made other organizational changes in other departments but staff of other organizations was added to DOE to form an Inland Waters and a Lands Directorate under DOE. Also the Canadian Wildlife Service became one of the services in DOE. I do not recall when these various additions to DOE were made in its final original organizational development.

P4. Q5. I do not agree with you. I saw many documents and had many updates from my seniors as to why DOE was to be the equivalent of the EPA of Canada and that with no new legislation dedicated to environmental protection the government had to collect together the environmental legislation available at the time and put it into DOE and EPS so it could have a mandate. The USA EPA office had been created a year earlier by then US President Richard Nixon.

P4. Q6 and Q7. My job description and direction from DFO management was very clear. We had to work with DOE and try and make them do their job i.e. enforce the provisions of the pollution provisions of the Fisheries Act and my unit was organized to facilitate that objective. We at no time did anything to undermine or obstruct DOE in their attempts to do their job. We were the advisors and the consultants to DOE and at no time did DFO even try and recover any pollution abatement responsibilities from the newly created DOE. The more significant problem was that DOE had no field presence beyond a Vancouver downtown office building and the many Fishery Officers did the job as they saw fit and when they saw a pesticide spill and fish kill or an oil spill they took direct action i.e. they collected the samples and most often laid Section 33(36) charges against

those that they felt were responsible for the violation. This was also done for many sediment discharges and at the time all sediment deposits were prosecuted as deleterious substance discharges ie Sect 33(36) violations.

DOE s were more active in trying to do their job until about 1975 and then a new Director of EPS was hired and DOE completely withdrew form their enforcement part of their job and often complained that they had no Fishery Officers on staff to do enforcement work. However, on many cases that went to court I worked directly with a key DOE- EPS pollution technician that fulfilled the role of investigator and fishery officer even without legal fishery officer overage. However some DOE staff as well as I did get Fisheries Act officer status and also Ocean Dumping Control Act inspector status.

I and my boss and other DFO staff did everything to pressure DOE and their staff to take the lead in addressing pollution control issues and in addressing impact reviews of various new develops such as the Afton mine and smelter being developed in Kamloops, opposing a proposed sewage discharge from the Hemlock Ski resort into Sakwi Creek – the main water source for the sockeye spawning channel at Weaver Creek, the authorized use of toxic dispersants in the ocean to mitigate the impacts of the Irish Stardust bunker oil spill into the Broughton Archipelago and countless other projects.

The DFO goal of gaining DOE support in any compliance and enforcement program from 1976 onwards can be traced to the DOE hiring practices just prior to that time period. Some of the new DOE staff were indeed mainly old and near retired engineers from industry in the belief they would best relate to industry and relate to the DOE mandate of controlling pollution within the factory fence. Accordingly each of the pulpmill, chemical industries, refinery, sewage, mining and such programs were headed up by older engineers and some of them were very hostile to DFO biological staff and I and my boss had many heated arguments in that DFO could not accept DFO demands for the mitigation of various deleterious discharges taking place and the discussions would most often degenerate into a scrap of what was DOE's job was and their apparent inability to get on with enforcing Section 36 of the Fisheries Act.

In 1976 I concluded that EPS- DOE were not doing their job adequately so as to protect fish and fish habitat and DFO was accomplishing little in getting them to do a better job so I felt I could be more effective if I joined them. This did not work that well in that it was apparent that DOE was an engineering type organization and their sympathies was more with the technology of pollution abatement and the costs of treating effluents than addressing the impacts on the receiving environment. In one of my appraisals I was advised that I had created environmental protection expectations that were too high and at times the government wanted to just jack up the hind wheels on the environment car and just let the wheels spin and I had to accept that.

Also since I had the most experience in sediment and many spill issues, DFO and DOJ subpoenaed me on case after case and I spent up to 60% of certain years in the courtroom as an expert witness on DFO cases. DOE then raised a great deal of concern that DFO was not doing their job and I was then allowed to offer an expert witness course to get

DFO to supply their own witness to do what at times was a DOE job. During the 1975 to about the 1983 era DOE and then DFO almost totally withdrew from enforcement. The impact on the environment was obvious and many industries could be could be seen dumping or discharging deleterious wastes directly into the Fraser River.

This issue was brought to a head in 1979 when I worked with the Fraser River Coalition to bring this matter to the attention of the public and DOE, DFO and MOE political leaders. A slide show was prepared exposing these numerous problems and it was covered by the national media. In response to the matter the public alarm was first dismissed by the various departments including MOE (then MELP).

I then worked with the Fraser River Coalition and a DOJ lawyer to lay private informant charges on two select obvious pollution issues that were being ignored by the three environment agencies. When the matter reached the press, the Province immediately launched an enforcement 'swat' team on the Lower Fraser and DFO officers were directed to be more diligent by DFO Minister John Fraser in a public meeting at the Vancouver Planetarium and DOE was directed by a DOE ADM to lay six charges by April 1, 1983. I noted that his was impossible but took the lead and personally aid charges against Equity Silver for polluting a Skeena River tributary with acid mine pollution. This problem had been ongoing for many years and the agencies simply were unable to address the problem with any assertive or effective action. The DOE – EPS Director refused to a direct the two fishery officers that DOE then had on staff to address this new direction from Ottawa so I had to direct the investigation, prepare the prosecution brief and lay the charges. The only group that cooperated in this work was a couple of lawyers at DOJ. In 2010 I strongly recommended to the Cohen Commission staff that such lawyers must be called as witnesses to this Inquiry. Unfortunately that was not done.

DFO Fishery Officers then re-activated habitat enforcement in about 1980-81 and began surveillance but did not begin enforcement until I rejoined DFO in 1983. At that stage of the evolution of DFO, Fishery Officers said they were phasing out of habitat and pollution work in that habitat technical staff had been decentralized to their field offices. The next several years in DFO were very frustrating in terms of directing any consistent effort in DOE or DFO to address obvious examples of non-compliance and this even became a front page story in theVancouver Sun in December 1989 when someone leaked a comprehensive internal memo of mine to DFO staff that documented that DOE nor DFO were addressing enforcement needs related to many outstanding habitat losses and pollution control incidents.

I did see the DFO and DOE briefing notes to Ottawa on DOE and DFO's apparent lack of enforcement and in many cases the rationale of why charges were not laid to address obvious violations were extremely misleading or even untrue. This was pointed out to senior management and the Ministers staff when I was immediately sent to Ottawa to explain what the problem was. Since that time, a consistent and effective DFO or DOE enforcement program for habitat and pollution violations has not materialized.

Each group with a Section 35 or 36 responsbility (eg. DFO Habitat, DFO C&P and DOE were isolated from each other in a number of ways and often did their best to ignore this line of work and stated that someone else was responsible to deliver upon the habitat and water quality issues. This problem has persisted to this very day but has greatly varied from year to year depending on who was in charge at a senior level or what general directions staff got from their respective ministers.

In 2005 I met with one of the new DOE enforcement officers in my David Suzuki Foundation office to discuss DOE's new enforcement program and I was questioned as to where they should put their efforts. In that what I learned is beyond the 2002 cutoff as ruled by Mr. Cohen so I cannot reveal what I learned. In 2000 I also met with two uniformed DOE officers in Fort St. John while I was attending a pollution trial as an expert witness for the Province but I again cannot comment on what knowledge I gained form those discussions.

I hope this gives you a good account of the great efforts I have made to get DFO, DOE and even the Province in doing their job in environmental enforcement on a consistent, fair and competent manner. It has been a very difficult and frustrating task.

P5. Q1. Of course DOE had to develop and maintain proficiency in water quality matters as related to Section 36 but not really related to other statutes. DOE were given a very competent staff from the old DFO Pollution Abatement Unit and they received much Water Quality expertise from the staff transferred to DOE from another department to form the DOE Inland Waters Directorate. They of course had to develop and maintain that expertise but it was their weak will in addressing pollution problems that was their greatest shortcoming. The other legislation that DOE gained were the Environmental Contaminants Act (now CEPA), the Ocean Dumping Control Act, a Clean Waters Act (phosphate levels in detergents) and the Clean Air Act (limiting lead in gasoline). These bits of legislation added very little need for DOE to evolve to have greater pollution expertise other than in the areas of pollution control and in the capability of the lab to do more types of more complex pollutants.

P5. Q2. DOE over the years began with the Fisheries Act water quality mandate (general provisions of Section 36 and its regulations related to pulpmills, base metal mines, and food plants e.g. fish plants, and for years DOE has been working on a sewage regulation. DOE also inherited the Ocean Dumping Control Act, the Clean Air Act and the Contaminants Control Act and then much of that was put into CEPA. Most of the other regulations or statutes are not heavy related to water quality as based on statute requirements e.g. CEAA, SARA but in examining any issue in the ecosystem water quality is most often bound to be a consideration (e.g. programs or studies on biota and water and sediment contamination). The issue is, is that a statute responsibility? Also have resources been drawn from Section 36 responsibilities to address new government commitments as they are passed new legislation i.e. do more with what you have. The undermining of old funding and capability by new programs with less than adequate resources is not speculation – it is a pattern found in most new programs and I have often seen it in writing that staff must do more with less. If you want an up to date answer of all

DOE water quality programs, you can easily find a DOE witness to advise the Commission of that point.

P5. Q3. The proficiency of DOE water quality and chemistry work in many areas is different from Fisheries Act Section 36 work. For instance, the running of a costly fish bioassay lab is not required for most if any other DOE work. The issue of sediments in water, chlorine in water, hundreds of pollutants in sewage and pulpmill etc effluents into our rivers or ocean and contamination in the sediments and fish, etc. are very directly related to Section 36 responsibilities.

It must be noted that t despite the DFO-DOE split, DFO did maintain a significant chemistry capability to test for safe levels of contaminants in fish until that was split form DFO and sent to the Canadian Food Inspection Agency. Also DFO Science has had to retain chemical analytical competency (e.g. ocean chemistry) for their research programs. These programs are often very different and each lab does have to design analytical programs and capability to suit what they are looking at the time. This is not a simple issue but the Section 36 Fishery Act needs can be well defined and often will not overlap with other agency and lab needs in expertise and equipment and often proficiency is not developed in house but even in the 1970s was purchased from the many commercial labs that provide services in these fields.

P5 Q4. Of course DOE has gained proficiencies in WQ and pollution work but that does not mean that they are able to analyze for all pollutants due to expertise and budgetary considerations. That is why different laboratory capability is found in many other agencies and private labs. When I was with DOE and DFO the joint lab could not do many analyses and many had to be farmed out. For instance in the 1970s and 1980s the DFO-DOE lab could not do pesticide and many contaminant analyses. This very critical work had to be farmed out to the BC Pesticide Lab and then it was sold to private industry and when one often spit a sample and sent it to two different labs as part of quality control, the results were often very different.

If you want to know if DOE has the equipment and expertise to now do a broad scan of most contaminants and all the new contaminants that appear on the market each year and are of concern to fish and all their other legislation you should have the Commission subpoena a DOE witness that can update you with what their lab can or cannot do as of 2011 and cross reference that to what the other lab and experts proficiencies are in this region and what quality control programs are in place to assure comparable results. Also if I could answer this question, the answer would relates to a knowledge base gained after 2002 and the Commissioner has ruled that I cannot comment anything after 2002.

P5. Q4. DOE should have gained proficiencies because equipment and methods have greatly improved over the years. However, no, I have no proof of that.

P5. Q5. DOE will have expertise in many water quality and pollution issues; however, I cannot say they have developed considerable expertise because I do not know what you mean by "considerable" expertise. That is a judgmental term.

P5. Q6. What do you mean by "considerable knowledge"? That is not a measurable quantity and it will be determined by the individual and can mean very different things. However, in the past 10 years that I have been out of government I would have expected DOE to be a good centre of WQ expertise but would question how it is being used especially in enforcement as related to Section 36 of the Fisheries Act which I believe is the issue here. Once again you are posing a question that encourages me to relate to what may have happened after 2002.

P5. Q7. In 1976 DOE had about 800 staff across Canada. Most were involved in water quality and pollution control issues since that was their real initial mandate. 400 of those staff were located in Place Vincent Massey in Hull, Quebec. The Pacific Region had about 80 staff (70 in EPS and others in IWD etc). To determine how many staff they had in 1971 and over the next year or two would be difficult to determine in that they were just being organized and many staff had or were about to be transferred from DFO and possibly other agencies to DOE. However, paragraph 26 of my revised Affidavit clearly spelled out that in the 1972 to 1976 time period DOE had about 70 dedicated water quality and/or pollution abatement staff. I cannot comment on how many of the national DOE staff was dedicated to WQ in that time period because that figure was not relevant to my work at the time.

P5. Q8. I actually started to work as an employee of the David Suzuki Foundation in November 2001. DFO refused to accept my resignation until some 7 months later i.e. May 2002. I made no attempt to keep track of DOE staff after I quit active service with DFO in 2001 at the Pacific or National levels. I only remained in contact with DFO as related to Fraser river habitat staffing levels after 2002.

P6. Q1. In the 1976 to 1983 time period I was with DOE, in certain years up to 60% or more of my time was spent on pollution and habitat compliance and enforcement issues. Some of these included DOE programs but many included programs of DFO and even the BC Ministry Of Environment where I acted for them as an expert witness on sediment prosecutions. Although I directed a Freshwater Studies and Environmental Contaminants Control Program, I was often asked to assist in marine issues such as PCB spills into Prince Rupert Harbour and on an Alberta Suncor tar sands plant oil spill into the Athabasca River in Fort MacMurray and act as an expert witness in many such court proceedings. To reduce my time in the court room I started a week long course that was run once or twice a year to train other DOE, DFO and MOE staff how to qualify and function as expert witnesses in habitat and pollution prosecutions.

In about 1980-82 when DOE was embarrassed for their lack of enforcement on many obvious pollution violations on the Fraser River I was asked to be the assistant to the Director of the EPS Pollution Abatement Branch to develop a program of compliance and enforcement since many mills had been out of compliance for many years and self compliance and soft letter writing to many violators urging clean-up was not working at many plants. At the time the DOE ADM came out from Ottawa to lecture staff on being more diligent and he noted that it was good that the matter was in the press and now DOE

had to address that issue. The lecture only gave rise to one charge (R vs Equity Silver as noted elsewhere in this response) and due to a complete lack of cooperation by the EPS Director and our enforcement staff I resigned from DOE and rejoined DFO.

P6. Q2. I spent the approximate 40% of the rest of my time on other water quality issues (e.g. Okanagan Basin Agreement) and the pesticide control program and on the new Environmental Contaminants Act (ECA) as it related to chloro-florocarbons that caused ozone depletion in our atmosphere (one of the first regulations to ban freons in certain products was implemented at that time by EPS), a regulation to control the release of PCBs, mercury and other heavy metals and then wood preservation and protection chemicals - especially the chlorophenols used in the wood protection and preservation industries. This work was in support of Section 36 concerns i.e. spills and discharges of this material was having a great impact on fish and their safety to humans but the ECA was to be more preventive in nature than reactive to a problem in the receiving environment.

P6. Q3. This program which was under my direction was directly responsible for the ECA and program in DOE as described above.

P6. Q4. Yes – I was responsible for the ECA in Pacific Region and had about 6 biologists and engineering/chemistry staff report to me in delivering this program.

P6. Q5. The Contaminants Control Unit under my direction was a smaller part of the entire DOE water quality program as noted above i.e. less than 10% of the staff. Much of the expertise we needed was slowly developed in DOE but some was imported form the DFO water quality programs i.e. staff form the original transfer to EPS in 1971-72 and my move to EPS in 1976.

At least up to 1983, the ECA was not a significant part of our program in that its use and was evolving at the time and DOE staff in Ottawa were often at odds with the regions across Canada on what were the priorities and how the ECAct could and should be implemented. Much of what we were doing that related to contaminants (PCBs, PCPs, TCPs, heavy metals, and pesticides) could and often was done under Section 36 of the Fisheries Act. DFO had originally set up the BC pesticide control program well before DOE was established and before BC passed their Pesticide Control Act and established a new office to control pesticide use in BC.

P7. Q1. No response –not a question.

P7. Q2. Definitely not and especially not in the way it was done.

P7. Q3. I agree that DOE should have an overall pollution and water quality mandate in its present form but unfortunately DOE was developed quickly in 1971 and they were given a collection of existing legislation and select parts of various acts such as Section 36 from the Fisheries Act and that gave them a less than complete legislative mandate to do what many felt should and had to be done if DOE was to be Canada's equivalent of

the EPA in the USA. In that sense I disagree with you and suggest Canada take a more global look at how Canada attempts to control the undesirable consequences of chemicals that affects our lives and that of fish etc.

DOE should have a broad pollution mandate in Canada and establish safe media for all Canadians to breathe, drink and consume in our many food and consumer products. If they are to be the agency you have alluded to they should have also incorporated many of the real environmental and public safety issues still with many other departments such as pesticide registration , food safety and even safe contaminant free consumer products such as toys. They did not have the proper legislation to do this in 1971 and were given a mandate with a partial collection of staff and duties from other departments so Canada could appear to be modern as related to the catchy new need to protect the environment and do something similar to what the USA had done a year earlier when they set up the EPA. DOE did not have the legal or statute basis to provide Canadians and our air, water and land with overarching umbrella of protection.

Under a national pollution control strategy DFO should have retained the complete mandate to protect fish and their habitat. If that was done we would not have had 40 years of confusion, duplication of effort, inaction and the use of much time in repairing something that history shows was more or less non-repairable. If that was not to be done, DOE had to have an accountable and legal agreement with DFO and a contract with the public to protect fish for DFO and the public from water pollution degradation in Canada. To some large degree they have never really done that and their hodge podge of legislation should all be properly brought into the modern CEPA but I feel Health and other departments will prevent their loss of legislation like pesticide safety and food safety. The government has to make a decision - put it all in one large department and motivate that department to do the job or give it the over arching general mandate to control pollution to a reasonable harmless level and a consistent level across Canada and let each other department look after their own needs in terms of consumer product safety, pesticide safety or the protection of water quality for fish.

P7. Q4. The DFO Minister is ultimately responsible for the pollution provisions of the Fisheries Act but that really does little to affect how DFO and DOE operates on a daily basis The end result would be no different even if the responsibility and jurisdiction over Sect 36 was fully delegated to DOE and not just administered by them on an interim basis as noted in the 1985 MOU.

P7. Q5. No response required.

P8. Q6. I am very familiar with the 1985 DFO and DOE MOU as well as others such as the Lucus - Wier MOU of October 1971. The 1985 MOU continues to try and patch up problems created by the original 1971 MOU and that approach has not worked over the past 40 years.

P7. Q7. Yes.

P7. Q8. DFO RHQ circulated it to the three DFO area habitat heads. During the 1985 era a hard copy would have been delivered and as was often the case a copy would have been faxed if it was a rush or important document. This would be an important document.

P7. Q8. Do I agree with the DFO-DOE MOU? This is not a matter to agree with or to not agree with. I had and still have a problem with its approach in that it couold be seen to be an awkward split and often an unworkable approach in that it indicates that the Section 36 split in 1971 was not working and some 14 years was still not workable. In about 1987 or 1988 I was asked by the DFO Director of C&P to make a presentation to DFO C&P staff at DFO's AGM at Whistler on this issue in that the Fishery Officers were confused and upset about how DOE was not responding to many of their complaints and they felt DOE was not fulfilling their Sect 36 responsibilities and wanted to know if this agreement and a new Regional MOU was going to change anything.

I advised the large crowd of FOs and others that this MOU again confirmed that the spitting up of Fishery Act responsibilities was not working well and this MOU was one of many such papers or non legal binding agreements that again was to provide a band aide solution to a major problem that was not being addressed properly and the more MOUs you had to develop, the greater the problem was and recent history (i.e. from about 1983 to 1988) had shown that the Section 36 DOE-DFO split issue was resulting in less efficiencies, strained working relationships and seemed to allow DOE to not have a will to address many outstanding and emergency water pollution issues affecting fish and their habitat in countless instances in the Fraser River system. I noted that there was no real enforceable accountability accord in the MOU and it would be largely ignored as staff went back to their normal jobs on Monday morning. This is not unusual human behavior when you are s attempting to change a human system that is often opposed to any real change.

The testimony of DOE and DFO witnesses on this issue at the Cohen Inquiry some four months ago have again shown that more MOU and various procedures are now in place and they are not being delivered upon any diligent resolution of the DFO-DOE water pollution split and that has greatly disappointed the public that want to see the job of pollution abatement in Canada to be delivered in a more diligent and accountable manner by the Minister of Fisheries. Once again I do not know if that is personal knowledge (I believe it is) and is anything I heard at the Cohen Inquiry material not part of what I can comment on since it is after 2002? To even ask this question seems very bizarre to me.

The only time that really happened was in the 1990 time period when DFO and DOE were embarrassed by the exposure of their anemic compliance and enforcement programs to the media and the public and with my guidance two private informants laid two sets of charges against two groups of polluters including a Federal crown agency for polluting the Fraser River without taking any precautions to mitigate their impacts from running terrible managed waste landfills that produced obvious discharges of toxic leachate into the Fraser River,

The solution of the agencies to this embarrassment was to direct the AG of BC and the AG of Canada to not accept any future private informant charges in the future and since that time they have all died on the books or were stayed by the Crown. This outlines the real problem with DFO and DOE not being able to agree upon a will and strong motivation to jointly deliver upon the intent of Section 36 of the Fisheries Act regardless of the many MOUs and procedures and review agreements signed since 1971.

P7. Q9. I agree that the MOU is to a greater degree the overall direction document on the administration of Section 36; however, many efforts have been made to make the MOU deliver on its intent and these efforts have been haunted by a record of little success. Most often such agreement make all parties feel good that a problem has been solved and the government can assure the public that that has been done but the will, resources and accountability mechanisms to make it work are usually lacking.

It is important to note that the 1985 MOU refers to this MOU as an "interim period" arrangement on the administration of Sect 36 of the Fisheries Act and it was to be reviewed on an annual basis. Such reviews have not been done on an annual basis and not in any thorough and transparent manner.

P7. Q10. I am aware that such government re-organizations are usually vetted and approved by the Prime Minister but I cannot recall seeing this specific document in 1978 or at any other time.

P7. Q11. Answer provided above.

P7. Q12. This is not a question and I cannot answer it.

P7. Q13. I am well aware that a Pacific Region agreement of some kind was signed but do not recall the date of the agreement but I have already referred to it in P7 Q8.

P8. Q14. I would expect any recent agreement to cover these issues as they have over the past two decades but it is often doe not work. In that DOE and DFO were put into the same building in 2002, it can only be hoped that better communications can now take place between those two agencies but the evidence of the DFO and DOE witnesses of some four months ago did not confirm that.

P8. Q15. You ask "If you are not aware of this, as a long time DFO and EC manager, why are you not aware of it? I question the purpose of this question in that I have been retired since 2005 and I have no obligation to be aware of everything government does just because I worked for DFO and DOE in the past.

However, if you insist on an answer please review the following. In 2001 I left DFO due to severe stress on many issues as related to a lack of resources to do the job despite millions of dollars being in the agency in B Base programs, constant feuding between Fishery Officers and habitat staff over who was to do the job and a general refusal by Fishery Officers to do habitat work. Also the issue related to Section 36 was a constant

thorn in our sides and due to Fishery Officers and DOE largely ignoring the enforcement provisions of Sections 35 and 36 of the Fisheries Act I felt I could accomplish more outside of DFO especially as related to stream protection and fish farming impacts.

I joined the David Suzuki Foundation in 2001 and in 2005 I was diagnosed with cancer and during the next two years spent weeks in three different hospitals and under went 8 rounds of surgery and was at near death when surgery was followed by an infection and then pneumonia. I was totally disabled for many months at a time and for a year was not allowed to leave the Vancouver area since I had many visits to emergency wards at frequent intervals.

In 2006 it was then determined that my cancer had not been cured and I was put on an experimental drug and that made life near impossible for eight months. During 2007 I was told the cancer would have to develop further in that they could not locate it in my body and then a treatment could be determined. My doctors felt that I must not work other than some very limited volunteer work and I had to remain on disability. In 2008 I was subjected to daily radiation treatment for two months and put on hormone treatment for two years. This treatment undermined my ability to work and it is only in the past 12 months have I began to recover from that hormone and radiation treatment.

Then in January 2011 a vehicle I was in slipped off the highway on the North Thompson and we went over a 40 foot embankment and rolled the vehicle multiple times before it was wrapped around a tree. I suffered many injuries and by March 2011 was in constant pain from many soft tissue and joint injuries, whip lash and a brain concussion that even made attendance at the Cohen Inquiry near impossible. I am still undergoing physio and am now waiting for a brain scan to determine if my brain injury is more serious than previously thought. I am plagued by continuous headaches and am told by the brain specialist that any time spent on my computer will aggravate my back, neck whiplash and concussion problems.

It was not my intent to expose all of my health problems over the past 6 years to the Cohen Inquiry. My health issues have forced me into early retirement and my disabilities have at times made it impossible to be interested in government organizations or at times why I am even concerned about the fishery and how the Cohen Inquiry is proceeding.. I hope this answer will fully suffice why I had good reason to reduce my interest in a job I left some 10 years ago. Once again it is odd that subject to your reminders, my knowledge base seemed to end in 2002 so again your line of questioning is confusing.

P8. Q17. I do not agree with your assertion. Many political letters and memos are not generally circulated to staff in the civil service. To see such documents I was cleared by the RCMP and CISIS to the Secret level in 1990 and documents such as this one are only shown around to staff on a need to know basis.

Most civil servants have no need to see Prime Minister's directions to his Ministers to do their jobs. Also the government would be concerned about leaks to the public if such documents were freely circulated to levels as 'low' as middle management. You have to

be ware that that is how the system works and you only are expected to see the documentation that relates to your organizations functioning and expectations and to that degree I was very well informed and that was possible because I had jobs that always inter-related to many DFO and DOE staff and higher level management in that my job always related to what was done in water quality, pollution control and habitat protection across Canada.

P9. Questions 1 to 6 are totally redundant in that Canada has posed these same questions in earlier sections and they have been fully responded to in significant detail.

P10. Q1. Yes I do. I have worked closely with many DFO scientists over the 1969 to the 2002 time period and I also met and worked with some until the present time. I was recently invited to attend a DFO scientific workshop on the eulachon in that I had worked anthem in the Nass and Fraser Rivers prior to 1976 and was still seen as an s expert in this area. Many of the studies of DFO scientists on WQ issues have often had some application to the daily application of Sections 35 and 36 of the Fisheries Act. One cannot treat academic knowledge as being separate from any later application of the Fisheries Act in water quality or pollution and as time passed DFO and IPSFC scientists had to do more and more applied work to assist in the application of the habitat and pollution control provisions of the Act.

P10. Q1. To ask what water quality work that DFO scientists and biologist have done during my career that I am aware of is really an unreasonable request. A full answer would require several pages of response. In that you have asked me to be concise, I will only give a brief summary of 10 research scientist work areas that I participated in, funded or was aware of.

1. Studies of the impacts of various sediments on various fish species in many environments and lab situations in British Columbia and the Yukon.

2. Studies of the impact of Roberts Bank Superport coal dust on the environment.

3. Presence of organic contaminants in juvenile salmon in the Fraser River from pulpmill effluents.

4. Preference studies of fish to various effluents from pulpmills to domestic sewage to sediment discharges.

5. Collection of fish and shellfish for heavy metal and contaminant research in the Fraser River and along the BC coast.

6. Participation in and funded DFO estuary scientists in studying the use of the estuary by juvenile salmon and other fish. Work mainly Section 35 related but the work had WQ aspects in it in that you cannot separate WQ from fish habitat. They are continuous, seamless and inseparable.

7. Participation with DFO scientists in publication of the creation of new compensation habitats to deliver on the no net loss policy. WQ quality considerations always have a part in this work.

8. Assisted in the research into the distribution of juvenile salmon in many habitat areas in Fraser River streams in that this work was largely neglected over the years. WQ and temperature issues were a key consideration of this work.

9. Provided funding for DFO and UBC scientists to collect better information on Fraser River temperatures and develop better temperature prediction models.

10. Impacts of pesticides and oil on fish.

11. In addition I directly participated in many research studies and encouraged my staff to participate and conduct their own studies and publish their findings in peer reviewed and the gray literature. My staff over the years published dozens of studies from reviews of Fraser River WQ to successes of DFO's application of the 'no net loss' policy.

12. In addition to my direct involvement in much of the above work I have met with DFO, DOE and IPSFC scientific researchers on many issues and have tried to keep abreast of relevant research as to better determine impacts on water quality and habitat inter-related work to incorporate that new knowledge into better habitat protection provisions as related to many daily decisions I and my staff had to make while I was in charge of habitat and WQ and contaminants programs in DFO and DOE.

P10. Q3. Your question does not refresh my memory. I do not see the point of your question in that what I said is what you have said. Saying something occurred in the late 1990s versus 1999 is very similar. I see no relevance in such questions as related to the Fraser River and the decline of sockeye.

P10. Q4. It would shock me if new DOE uniformed or other officers had not been exposed to at least some basic training. However, I have meet with some of those officers that did not have enforcement backgrounds or previous experience and they did seem lost as to what their job was in DOE. In 2009 I had discussions with two senior Federal prosecutors and DFO and DOE enforcement programs and their status was discussed. Unfortunately what waws learned in that discussion again cannot be commented on in that it was after 2002 and I again cannot comment on that as ruled by the Commissioner.

In that I had a great concern for the problems with the various habitat and pollution officers in the field in 2010 I asked the Cohen Commission staff to subpoena field level staff and above all an experienced Section 35 and 36 Fisheries Act prosecutor from the Federal government to obtain good and up to date evidence on DOE officer capability and other relevant enforcement issues that have been poorly covered in this Inquiry. There are better witnesses to comment on this matter than myself, however, I have not

seen any other such witnesses called to testify at this Commission and if I did have up to date knowledge in this area it is not to be accepted in that it is after my knowledge cutoff date of 2002.

P10. Q5. Your information is incorrect. This question is confusing in that the Fraser River Action Plan ended well before 1999 and many staff hired under that B Base program were then laid off unless they were be picked up by the A Base budget or a successor program such as the DOE Georgia Basin Project. I do recall knowing at least one Fishery Officer taking a secondment to DOE. You will have to review this question to make it more time accurate. If those staff were hired prior to the end of FRAP i.e. before 1997, I did not see any of them in my training sessions for DFO Fishery Officers or in the Expert Witness course. I do know that DOE did begin to run their own Inspector training program.

P11. Q1. Your underlying conclusion is probably erroneous. You seem to assume that DOE cannot give up any resources to DFO so Section 36 can be returned to DFO because then DOE will not have the resources to do their other jobs. Does this mean that the Fishery Act Section 36 responsibility resources are indeed being used to run other programs and DOE actually puts little effort into Section 36 programs? Often new programs are assumed by agencies and the resources to run that must come out of existing A Base budgets.

Your question also seems to raise the issue that as new government commitments are made (e.g. SARA, CEPA, etc.) each employee must do more and more and each employee should be an expert in many forms of legislation, biology, engineering, chemistry and in investigation and prosecution procedures. This is not possible and even in DOE there will be specialization as related to SARA, CEAA, Fisheries Act Sect 36, CEPA and its various provisions such as organic contaminants, metals and an understanding of environment and ecosystem functioning versus in-plant and technology understanding and ocean dumping requirements etc. Those that relate to Sect 36 type needs can be separated out from the larger collage of expertise across the organization.

The issue you have raised is often the argument that an agency will use to hold on to its resources and this issue was amplified by the DOE and DOE witnesses when questioned on this issue. In such organizations staff are always working to get more resources and it is a betrayal to their organization if they are willing to give away resources to someone else to do what they believe is their job and retaining what you have is key to job security.

If there is clear direction and strong direction it is a less than impossible task to determine who works on what issue and relates to what compliance and enforcement programs and divide up the resources accordingly. A Zero a Base review by an impartial organization such as the government has used to determine recent downsizings can be used to assist key staff in such a review.

Government has to appreciate that staff cannot do more and more without adequate supporting resources and new programs should not grow at the expense of old A Base priorities i.e. Sect. 36. There can be great saving in joint laboratories in that they are largely program independent of the workings of pollution control and related in field issues. This laboratory argument can be extended to beyond DFO and DOE (eg. Health Canada, food Inspection Agency etc) if government has a larger view of what their job was and wanted to gain greater joint efficiencies and in their ultimate mandate of protecting the public from the many risks of the careless or inadvertent release of deleterious chemicals into our environment.

P11. Q2. Section 36 work in DFO wouldn't be new work and above all, resources now exist in DFO and DOE to do that work unless of course they do not exist as indicated by thier less than adequate monitoring and enforcement programs. The problem is that the will and direction is not there to do any large degree of monitoring, compliance and hard enforcement. The issue of training is raised. Most staff in DFO and DOE should already be trained and any new recruits will have to be trained on an ongoing basis as have been the case of the past decades. However, DFO has cancelled the expert witness program and such training would have to be revived. Once again you have posed a question that relates to a time period after 2002.

P11. Q3. I would not agree with this. This expertise already exists in DOE and in some DFO labs and in contract laboratories and as noted above, efficiencies can be gained by a better combination of laboratories from many different federal departments. The real issue here is that in the 1980s the DFO RDG made a decision to cut DFO laboratory capability and that has haunted DFO over the years and DFO staff was told to contract our laboratory services but never were given the proper resources to do so. As a compromise a small budget was given to DFO Water Quality Unit to allow the DOE lab to carry on select DFO legal analyses. I do not know what the present laboratory arrangements are or what the budgets are but in the late 1980s DFO cuts greatly harmed many programs including enforcement programs when it came to laboratory services.

P11. Q 4. Yes I am aware of the seven duties that DOE and DFO are to collaborate on as you have outlined but you seem to have totally missed the point that these are all MOU and procedural agreements and evaluation frameworks etc. and over many years they have given rise to expectations and a false sense that the problem has been addressed and the job will be done. However, as I have noted in previous sections these are just statements of intent and not delivered action plans. They have been poorly delivered upon and there is no real accountability to make certain that these multiple agreements and procedures will address gaps in a poorly functioning and inefficient system.

I am fully aware of 40 years of actions taken by DFO and DOE to get DOE to do their job and it simply has not worked and Inquiry evidence showed that these two agencies are to review more options to pursue options they have not implemented to improve upon what is really a terrible split jurisdiction arrangement. The Fraser River sockeye resources and the habitat and the public simply deserve and demand more professional

leadership in this area. This inappropriate split made in more simple and probably more naïve time did not appreciate the complexity of future work in environmental protection.

P11. Q5. I totally disagree with your assertion. In a naïve world many MOUs and similar feel good documents look great but in reality they have not been worth the paper they are written on. The seven MOU action points that your have presented to me are good if they can be made to work but you again seem to miss the key point that in 40 years DOE and DFO have not been able to make this arrangement work and that was the concern and the wisdom expressed by many DFO staff in 1971. Again, it must emphasize they are statements of intent and not action points. It is now time to adopt an alternative strategy(s) and what that can be seems to not be in any of your lines of questioning. The agenda in government is to maintain the status quo and that is short sighted and is not bold leadership and will never give rise to any creative solutions.

P11. Q6. This is a very odd question that can raise more questions. However, I do disagree with your premise. If Section 36 duties in DOE are largely covered in CEPA why do we have that duplication of legislation and work in DOE in two different but similar pieces of legislation? That is an obvious duplication of effort and is that not very efficient. As noted on my Affidavit and touched on elsewhere in this response process, most if not all government and I have largely felt that based on the Lucus -Weir memo of 1971 that DOE would always relate to in-plant pollution abatement and DFO would be responsible for the out of plant impacts in the receiving environment. Unfortunately DOE did not have the proper tools to do that job in 1971 and the interim split jurisdictional arrangements of the 1971 to 1985 should have been terminated well before now or drastically altered so as to work more effectively.

If Section 36 is to be returned to DFO this makes this separation of duties even more logical because as you have noted DOE now finally has the legislation to do the job it was intended and directed to do in 1971.

In a sense you have helped support my view that DOE has finally grown up and now has some of the general legislation for that agency to reduce ambient pollution levels in all environments and media (land, air, water and in select products) by means of control at point of import, manufacture or in in-plant use or by means of pollution abatement works to present the pollutant from escaping the plant and harming the fish and habitat in the receiving waters.

DFO should have the Section 36 responsibility to monitor these pollutants and take action where levels exceed various standards and can harm fish and habitat. DFO and DOE would again share the same laboratory and collaborate so as DFO would provide the feedback mechanism to DOE as to whether or not their pollution abatement program was adequate for fish. Where pollution is creating a deleterious situation in the environment, the Fisheries Act and DFO would respond to that fish issue.

This re-alignment of responsibilities goes beyond DOE and DFO. To some degree Health Canada would do that as related to human health including the control of pollutants in

drinking water and CWS would provide input back to its sister service on how DOE control standards are effective in protecting wildlife in Canada. This was the general understanding by DFO and DOE staff as related to the purpose of DOE as defined in the Lucus - Weir MOU.

P11 Q7. Here again you note that CEPA and the Fisheries Act will do the same job. Again that is not a good rationale to provide the environment and the public with an efficient and understandable pollution prevention standard. Accordingly I agree that is the case but I totally disagree that this is an acceptable arrangement.

P11. Q8. It is important to note that DOE has never had a real field presence until about a decade ago and it is still no where as comprehensive as the DFO presence is across BC and Canada. In that most environmental monitoring as related to fish and its habitat should be done by DFO there is not that great a need for DOE to have a greater e field presence if they are to remain the in plant or with in the factory fence organization. In fact most effluent sampling is done by industry as part of self monitoring and self compliance and not by DOE. Yes, DOE should maintain pollution sampling and abatement presence in larger centers of industrial type activity. To date that presence has been minimal and there is probably no great need to change that.

P11. Q9. I disagree. There is no duplication of work when each organization does a very different job and properly keeps each other informed or their activities. The greater duplication of effort is by the Provincial government and that has been left out of the evidence and general considerations at this Inquiry. There can also be duplication of effort by the local regional government or city in that they also monitor what is in their sewers and reaches fishery waters.

Overall it should be a DOE job to be product and industrial process experts and work within the factory fence as determined by Lucus - Weir in 1971. They would put significant effort into determining and establishing enforceable standards of what is in a feed stock or process chemical used in any industrial process or in any plant and evaluate and enforce standards as to what in final product of that plant can harm humans or fish etc. DFO would relate to the hot problems as they occur in the river or ocean (fish kills, whale contamination, spills and other receiving environment monitoring with their excellent but under resourced research and operational field staff and those resources and expertise really does not exist in DOE as related to the Fraser River and sockeye salmon and its extended habitat areas in the ocean.

P13. Q1. Of course DOE has built up expertise over the years in WQ pollution issues. In many areas and on many occasions they have also lost expertise and have had to start from scratch in many areas such as in enforcement and this has handicapped a consistent and diligent compliance and enforcement program. Once again it is not the lack of expertise that has prevented them from doing an acceptable job – it is their will and poor direction and these are management and not expertise issues.

P13. Q2. Yes, DOE needs more than Section 36 expertise to relate to its non - Section 36 responsibilities in air, wildlife, products, industrial processes, etc.

P13. Q3. If Section 36 is moved elsewhere into the government, DOE will of course have to retain expertise in wildlife contamination, industrial processes, ocean dumping issues and similar related fields of expertise needed in any new DOE administered legislation or regulations such as in CEPA. This is only logical.

P13. Q4. Confusing question – what is "this knowledge" – section 36 or other DOE program expertise? If it includes Sect 36 expertise my answer is - no. There are now more experts graduating out of our advanced learning institutions than at any time in the past and they need jobs in times of government austerity in environmental programs in Canada and can easily be incorporated into any well run organization that knows what its job is and has good staff training programs.

P13. Q5. No – at least not to the degree you seem to indicate. Much of that expertise and staff are now present in the government and they would continue to do their jobs but at times in a different agency and with hopefully better direction and a stronger will to do their job more effectively.

P13. Q6. No. This is not accurate at all and I have answered this question in other sections. I have remained very close to the organization in DFO especially as related to the Fraser River habitat and water quality issues and as of earlier this year was still meeting with various DFO staff on many Fraser River issues as related to the Prince George, Kamloops, New Westminster and RHQ organizations. I also attend a get together of all retired DFO staff annually to review our notes. My knowledge base of how DOE operates or is organized has not really been updated after the 2002 to 2005 period. However, this is not of any help to anyone in that the Commission has determined that I have no basis to relate to issues in DFO and DOE after 2002.

P13. Q7. I do not have up to date information on the organization of other DOE offices across Canada and have no reason to keep track of such in my present capacity or any planned future capacity.

P13, Q8. I have already answered this question in my Affidavit. My comments as solicited by Commissioner Cohen asked for my comments as related to this Commission's terms of reference and I believe that specifically relates to the Fraser River sockeye and any comments to DOE and DFO relates to that terms of reference and that rests here in BC and the Pacific Ocean in my comments. I clearly did note that I would not offer an opinion on how repatriation of the Sect 36 would be handled or affect other parts of DOE outside of these terms of reference area specifically including other regions of Canada and in DOE NHQ.

P13. Q9. I did not say that the overall programs in DOE and DFO would be run with overall greater savings after any re-alignment of Sect 36. I did say that fewer managers and some consolidations could occur as with laboratory services and that would lead to

cost savings i.e. not everything is a cost and some efficiencies and saving will occur in some areas. As noted earlier a proper study as conducted by an impartial group with key impartial DOE and DFO advisors would have to evaluate how repatriation could occur and how any programs could be shared efficiently and what cuts in managers could occur. Much of this can be stated independent of having an up to date intimate knowledge of the present organization. The costs can be greater to staff than in terms of overall fiscal costs. There is of course a concern that there can be addition costs for any new arrangement in government but this has to be balanced against possible cost savings and that conclusion can be drawn on the basis of past experience in the many reorganizations I have been through in DOE and DFO and an open mind has to prevail until the many issues are examined properly. It is very easy to come w up with 99 reasons why nothing should ever be changed.

P13. Q10. I disagree with your assertion. I no longer have any hope for DOE doing a significantly better job over the foreseeable future or for a great improvement in the collaboration efforts between DFO and DOE. It is of course very feasible unless as stated above you want to come up with ever reason in the book why you cannot improve upon organizations and their performance. This world would be a very sad place if we could not do that.

P13. Q11. I totally disagree with you on this assertion. To date this is one of the problems that has haunted the present organization in DOE an DFO and has confused the public as to the confusing split that occurred in 1971 and caused duplications of effort at times but more so, large gaps of back passing and inaction and that has upset many concerned with the protection of water quality and fish habitat.

Your assertion that a transfer of Section 26 to DFO could easily lead to an organization that was not more efficient and it could have more managers and more staff reporting to different managers and that could confuse them and lead to contradictory mandates an different priorities is little more than a smoke screen and has no real basis if studies and implemented in a responsible way that would obviously avoid what you have just outlined. In fact in your series of questions you have forwarded points that indicate that duplication does exist in the present organization such as overlaps in approaches between CEPA and Sect 36. It would take significant incompetence to reach the pint that you have suggested and I would trust that the Federal Government can do a better than what you have suggested.

I gave several good examples of the president problems that you have just described in my original Affidavit but they were rejected and now ignored. It is unfortunate that evidence that hi-lites the duplication of effort and the lack of action and the buck passing between DOE and DFO has been rejected by some parties with standing before the Commission and the Commission itself. It is hard to appreciate the problems unless one keeps an open mind and looks at the real world evidence that should be before this Inquiry.

P14. Q12. This question has been asked on two previous occasions and has been answered adequately.

P14. Q13. This again is a very confusing question based on inaccurate information. It is not a valid description of what you believe may have happened in the mid 1990s and is an exaggeration of what did occur and that is not unique to the mid 1990s. What you have described is exactly what I did in 1976. I was invited to join DOE and felt it may be better to join them than to constantly argue with them and I took on a key management position with DOE especially as related to their new Environmental contaminants Program. In the 1990s a person that I hired in about 1975 left DFO and joined DOE. A few years later a DOE water quality specialist left DOE and joined DFO. Such movements between the agencies happened on several occasions over the years and this is normal as staff look for new opportunities and better paying jobs.

There was no general movement of "many DFO toxicologists and scientists" from DFO to DOE at any time other than in the formation of EPS in about the 1971-1972 time period. A couple other lower level staff in DFO did move to DOE but I would not agree that this was a movement of "many toxicologists and scientists" from DFO to DOE. To conclude that this happened is very misleading.

DFO did not have many that could transfer with the expertise you have described and the few that did transfer to DFO would not qualify as toxicologists in that they did not have advanced education or experience in toxicology and most functioned as lower level biologists with BSc degrees and one as a middle level manager with an MSc. Also about that time a DFO PhD researcher had to find space in the new DOE North Vancouver Chemistry Lab in that the DFO Environment Lab in West Vancouver was shut down as a cost savings measure. However at no time did that scientist or his support staff work with or for DOE.

Other displaced DFO staff from that lab moved to Cultus Lake Lab, SFU, Vancouver Island DFO labs or wherever they could find free space for an office or lab. At the same time at least one biologist left DOE to join DFO and is now a Director in that agency. The movement that you have described simply did not occur and the few staff that in moved between the agencies in the 1990s was very similar to other moves between DOE and DFO made by many staff including myself over the years.

P14. Q14. DOE is bound to have significant expertise as related to effluents and contaminates after 40 years of working this field. However they do not have the research capability found in DFO labs at locations such as Pat Bay, Cultus Lake, or Nanaimo. DOE is more of an operational organization and DFO in 1971 retained the research and biological impact and related scientific fisheries expertise and capacity. This may have happened in that DFO research staff were then buffered from such reorganization in that they were all part of the then Fisheries Research Board of Canada and were removed from most political type decisions of the day.

P14. Q15. This is a very confusing question in that the answer is obvious. Am I aware that EC provides expertise under the Fisheries Act? This is to be fully expected in that was always the case starting in about 1972. DOE had the DFO staff that did Section 36 work so they of course have always provided expertise on pollution or WQ considerations as related to the Fisheries Act. In the 1976 to 1983 period I have noted in my Affidavit and in the above responses that at times it took up much of my job including provide expert witness testimony for many DFO prosecutions under Section 36 and 35 of the Act. My DOE Director was so upset with me working so much with DFO and Justice that he felt that I at times was not working for DOE. That was very ironic in that many of the DFO cases should have been DOE prosecutions but in that DOE wouldn't respond to most pollution violations at the time, DFO Fishery Officers did.

P14. Q16. I did not follow the Total Joslyn Mine Hearings in 2010. I see no reason why DOE or any other agency experts would not appear before a tar sands mining hearing. As with many of your questions I do not understand the purpose of this question and it should be restated if you expect a more meaningful answer. As a DOE biologist that moved to DFO in 1983 I did assist the Alberta Government in prosecute a private informant charge against the Suncor Tar Sands plant for an oil spill into the Athabasca River at Fort McMurray.

I again find such a question is very odd in that I was directed by Commissioner Cohen to relate to my expertise up to 2002 as acquired while in DFO and DOE. You further repeat that direction and note that you may object to any of my responses if I go beyond those directions. In this question and many others you have clearly again and again posed questions that I could not answer in any way as related to my direct knowledge I obtained while working with DOE and DFO prior to 2002. I raise this issue in that I am under cross examination and cannot get legal advice on this point from my lawyers. I question the directions I have received on this matter as related to this and many of the above questions and question why you seem to have gone out of your way to contradict Commissioner Cohen's directions that you warned me not to do?

P14. Q17. This question is redundant in that it was fully answered in my Affidavit and in the above responses.

P15. Q1. No - this is much more than just my opinion. It is based on my many years of working with many ENGO and other public groups and industry. There is a factual basis to this statement as made in my Affidavit.

P15. Q2. Others are entitled to their opinion but do not have the extensive public contact I have had in this region while with DFO and DOE and in my past 10years as an ENGO worker and volunteer for many public groups. My views are well based and backed by public concerns and are not just based on opinion. Others can have opinions that disagree with what I have to say but one must determine what is wishful thinking versus what views are based on what the public is saying. Also industry may be happier with the DOE and even the new DFO approach to compliance matters and have often stated to me in the

past that they resent seeing Fishery Officer on their property in that they are too assertive and threatening and do not look for compromise in the way they often do things.

P15. Q3. I disagree in that that has not worked over the past 40 years. One simply has to relate to the past and not just relate to good statements of intent and wish that things will work better in the future. The time is long past for a drastic improvement in the effective application and management of Section 36 of the Fisheries Act.

P15. Q4. I disagree in that this has been the case for many years and that arrangement has not worked despite countless MOUs and procedural agreements in place over the years and into the present day. If you outline how DOE can be motivated to do the job diligently and forced to adopt a will to do the job and be truly held accountable I will then keep an open mind and reconsider my stance on this matter. I am not naïve enough to believe that all of the necessary enforcement attributes are now in place in DFO to do a much better job as indicated by their in ability to enforce the Section 35 previsions of the Act.

If the Act was to be repatriated to DFO, that agency would also require a significant shakeup and also upgrade it's will to do the job and resolve many of the conflicts between C&P and Habitat and be directed that habitat and habitat enforcement is again part of their job. The only way DFO can overcome the real problem of their Fishery Officers not doing habitat on a full time basis is to dedicate select FOs as full time habitat officers. Many attempts have been made to do this over the years but the C&P organization has always opposed such. When C&P was forced into such a program the FOs that were moved into Habitat were stripped of their uniforms and they became habitat technicians and ceased to do enforcment work. In a sense FOs did became full time habitat staff but the terrible management in DFO allowed that new and enlightened approach to be again undermined as the FOs were absorbed into the technical ranks as just more field technicians. This was a grave mistake and setback.

Habitat and C&P have to reach a level of maturity to make this work and find the leadership to make it work. C&P have always been opposed to any uniformed officer working for a technical unit. The compromise may have to be that there are dedicated and uniformed technical habitat Fishery Officers (officers, inspectors or guardians) but they continue to report to C&P to just keep the system happy. The will to do the enforcement part of their job has to be generated at the political and higher managerial levels in that that is where the will and diligence has been undermined in the past several years as evidenced by the confusion and great reduction in habitat inspections and prosecutions and convictions over the past 10 years.

P15. Q5. Many would agree that the past and present arrangement has not worked adequately over the past 40 years so as to give fish and fish habitat more diligent protection. I am very open to new arrangements and have always looked and promoted improvement in a system that often was always tied to the past and did a great deal to maintain the status quo. The present approach simply does not work and as noted above few new arrangements will work if the government is of the view that enforcement is to

be downgraded and accept the unworkable approach that self monitoring and self compliance is the better way to go as m part of a new environmental protection and modernization program (i.e. EPMP).

Despite what you state, I do not have pre-disposed views of how things should be managed as related to Section 36 of the Fisheries Act. I do however strongly believe that many of the problems that we see could have been avoided if the split jurisdiction did not take place in 1971. I am open to any new approach that offers much more efficient and diligent water quality and pollution abatement than we have seen over the past 40 years. I am open to drastically new ways of doing enforcement of violations. New methods must be found to do the job in that the methods adopted in the past 10 or 12 years have not worked well and establish bad precedents. A real shake-up in this work area must occur because the fish, the intent of the Fisheries Act and the public interest are not being served.

P15. Q6. This question was answered in the above sections in great detail so I will not repeat my answer other than to note that DFO will handle the issues in the receiving environment as was intended by the Lucus -Weir in 1971 and DOE should more address its CEPA approach and prevent pollution and contaminants from getting out of the factory fence.

P15. Q7. This question is again redundant and has been answered. To pose this question you may have ignored the problems that are now taking place and you are not looking at the ineffective system that we have in place to the detriment of sockeye and other fish, tier habitats and the public interest.

Respectfully submitted by

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Attachments:
1. Langer CV
2. Langer BC Supreme Court Affidavit on habitat protection history 1958 to 2004.
3. Langer review for OAG of habitat protection history from 1965 to 2005.

N.B. By order of the Commissioner (Ruling of Nov 10, 2011), the attachments listed above are not to be entered into the evidentiary record, and are therefore not part of this Exhibit.

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